RIDGID

SAFETY DATA SHEET

Section 1 – Product & Company Identification

Product Name:
RIDGID Endura-Clear Thread Cutting Oil (Canada)

Product Catalog No.:
32808

Recommended Use:
Thread Cutting

Restrictions on Use:
Industrial use only

Company Information:

North America	Canada
Ridge Tool Company 400 Clark Street Elyria, Ohio 44035-6001 1-800-519-3456 (8:00 am – 5:00 pm EST, M-F) Emergency Telephone call 9-1-1 or local emergency number www.RIDGID.com	Emerson Electric Canada Limited 66 Leek Crescent , Richmond Hill, Ontario L4B 1H1 905-762-1010

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Section 2 – Hazards Identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2A

Unknown toxicity - Health

Acute toxicity, oral	89.55 %
Acute toxicity, dermal	2.01 %
Acute toxicity, inhalation, vapor	12.19 %
Acute toxicity, inhalation, dust or mist	99.81 %

% of the mixture consists of an ingredient or ingredients of unknown acute toxicity

Label Elements

Hazard Symbol:

Signal Word:	Warning
Hazard Statement:	Causes serious eye irritation.
Precautionary Statements	
Prevention:	Wash thoroughly after handling. Wear eye protection/face protection.
Response:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Other hazards which do not result in GHS classification:	None.

Section 3 – Composition / Information On Ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Distillates (petroleum), solvent-dewaxed heavy paraffinic		64742-65-0	80 - <100%
Zinc compound		4259-15-8	1 - 5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition Comments: This product does not contain silicone or chlorinated additives.

Section 4 – First Aid Measures

Ingestion: Rinse mouth thoroughly. Call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting.

Inhalation: Move to fresh air. Call a POISON CENTER/doctor if you feel unwell.

Skin Contact: Remove contaminated clothing and shoes. Wash contact areas with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

Section 5 – Fire Fighting Measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, fog, CO_2, dry chemical, or regular foam. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical:	Heat may cause the containers to explode. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ensure adequate ventilation.
Methods and material for containment and cleaning up:	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

Section 7 – Handling And Storage

Precautions for safe handling:	Avoid contact with eyes. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Do not expose to intense heat as product may expand and pressurize container.
Conditions for safe storage, including any incompatibilities:	Store in original tightly closed container. Avoid contact with oxidizing agents. Store away from incompatible materials. Shelf Life: 450 Days

Section 8 – Exposure Controls / Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Mist.	TWA	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	STEL	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Distillates (petroleum), solvent-dewaxed heavy paraffinic	8 HR ACL	5 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	10 mg/m3	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Mist.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (11 2011)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (11 2011)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Mist.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Distillates (petroleum), solvent-dewaxed heavy paraffinic - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: No data available.

Other: Wear protective clothing appropriate for the risk of exposure. Be aware of other hazards such as rotating parts. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from supervisor on the company's respiratory protection standards.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Section 9 – Physical And Chemical Properties

Appearance	
Physical state:	Liquid
Form:	No data available.
Color:	Amber
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	177 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Density:	No data available.
Relative density:	0.9297
Solubility(ies)	
Solubility in water:	Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	44.5 mm2/s (40 °C)
Other information	
VOC:	15.5 % (Method 24) 1.1 g/l (ASTM E 1868-10)

Section 10 – Stability And Reactivity

Reactivity:	Not reactive during normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	None under normal conditions.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Contains a component which may release flammable substances, including trimethylpentene, by distillation in systems with solvent recovery. This may lead to accumulation in the solvent circuit.

Section 11 – Toxicological Information

Information on likely routes of exposure

Inhalation:	Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Prolonged skin contact may cause redness and irritation.
Eye contact:	Causes serious eye irritation.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise. May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: Not classified for acute toxicity based on available data.

Dermal
Product:
Not classified for acute toxicity based on available data.

Inhalation
Product: Not classified for acute toxicity based on available data.

Delayed and immediate effects, including chronic effects from short- and long-term exposure
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

ACGIH Carcinogen List:
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

Section 12 – Ecological Information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.
Other adverse effects: No data available.

Section 13 – Disposal Consideration

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. It is the responsibility of the product user or owner to determine at the time of disposal, which waste regulations must be applied.

Contaminated Packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14 – Transportation Information

TDG
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

Section 15 – Regulatory Information

Canada Federal Regulations
List of Toxic Substances (CEPA, Schedule 1)

Chemical Identity
Zinc compound

Export Control List (CEPA 1999, Schedule 3)
Not Regulated

National Pollutant Release Inventory (NPRI)

Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements

NPRI PT5	Not Regulated

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)

CAD PSL2	Zinc compound	Listed.

Greenhouse Gases
Not Regulated

Section 16 – Other Information

Prepared by:. . . . . Ridge Tool Company (Operating Standard 6-124)

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RIDGID

FICHE SANTÉ/SÉCURITÉ

1 – Identification du produit et du fournisseur

Produit:
RIDGID Endura-Clear Thread Cutting Oil (Canada)

Réf. catalogue:
32808

Emploi recommandé:
Filetage mécanique

Restrictions d'utilisation:
Usage industriel seulement

Fournisseur:

North America	Canada
Ridge Tool Company 400 Clark Street Elyria, Ohio 44035-6001 1-800-519-3456 (Etats-Unis) (du lundi au vendredi de 8h à 17h EST) Téléphone d'urgence: composer le 9-1-1 ou appeler les services d'urgences appropriés www.RIDGID.com	Emerson Electric Canada Limited 66 Leek Crescent , Richmond Hill, Ontario L4B 1H1 905-762-1010

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Révision G

2 – Identification des risques

Classe de Danger

Dangers pour la Santé

Blessure ou Irritation Grave des Yeux Catégorie 2A

Toxicité inconnue - Santé

Toxicité aigüe, orale	89.55 %
Toxicité aigüe, dérmale	2.01 %
Toxicité aiguë, inhalation, vapeurs	12.19 %
Toxicité aiguë, inhalation, poussières ou brouillard	99.81 %

% du mélange consiste en ingrédients de toxicité aiguë inconnue

Éléments d'Étiquetage

Symbole de Danger:

Mention d'Avertissement:	Attention
Mention de Danger:	Provoque une sévère irritation des yeux.
Conseils de Prudence	
Prévention:	Se laver soigneusement après manipulation. Porter un équipement de protection des yeux/du visage.
Intervention:	EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Si l'irritation oculaire persiste: consulter un médecin.

Autres dangers ne donnant pas lieu à classement selon le SGH: Aucun(e).

3 – Composition du produit et renseignements sur ses ingrédients

Mélanges

Identité Chimique	Nom commun et synonymes	Numéro CAS	Teneur en pourcentage (%)*
distillats paraffiniques lourds (pétrole), déparaffinés au solvant		64742-65-0	80 - <100%
Zinc compound		4259-15-8	1 - 5%

* Toutes les concentrations sont exprimées en pourcentage pondéral sauf si le composant est un gaz. Les concentrations de gaz sont exprimées en pourcentage volumique.

Remarques sur la Composition: Ce produit ne contient pas de silicone ou d'additifs chlorés.

4 – Premiers soins

Ingestion: Rincer soigneusement la bouche. Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise. NE PAS faire vomir.

Inhalation: Transporter à l'air frais. Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise.

Contact avec la Peau: Enlever les vêtements et les chaussures contaminés. Laver les zones de contact à l'eau et au savon. En cas d'irritation cutanée: consulter un médecin.

Contact oculaire: Rincer immédiatement à grande eau pendant au moins 15 minutes. Enlever les lentilles de contact si cela est facile à faire. Consulter un médecin.

Symptômes/effets les plus importants, aigus et différés

Symptômes: Aucune information disponible.

Dangers: Aucune information disponible.

Indication d'un besoin médical immédiat et traitement spécial requis

Traitement: Consulter un médecin en cas de symptômes.

5 – Lutte contre les incendies

Dangers d'Incendie Généraux: Aucun risque exceptionnel d'incendie et d'explosion.

Moyens d'extinction appropriés (et inappropriés)

Moyens d'extinction appropriés: Eau pulvérisée, brouillard, CO2, agent chimique sec ou mousse standard. Choisir le moyen d'extinction de l'incendie en tenant compte d'autres produits chimiques éventuels.

Moyens d'extinction inappropriés: Ne pas lutter contre l'incendie au jet d'eau pour ne pas propager les flammes.

Dangers spécifiques dus au produit chimique: La chaleur peut provoquer l'explosion des récipients. En cas d'incendie, des gaz dangereux pour la santé peuvent se former.

Équipement de protection spécial et précautions pour les pompiers

Procédures spéciales de lutte contre l'incendie: Aucune information disponible.

Équipement de protection spécial pour le personnel préposé à la lutte contre le feu: Les pompiers doivent porter un équipement de protection standard, notamment vêtement ignifuge, casque à masque facial, gants, bottes en caoutchouc et, dans les espaces clos, un appareil respiratoire autonome.

6 – Lutte contre les déversements accidentels

Précautions individuelles, équipement de protection et procédures d'urgence: Voir l'équipement de protection individuelle à la Section 8. Ne pas toucher les récipients endommagés ou le produit déversé à moins de porter les vêtements de protection appropriés. Maintenir à distance le personnel non autorisé. Assurer une ventilation adéquate.

Méthodes et matériel de confinement et de nettoyage: Absorber le déversement avec de la vermiculite ou toute autre matière inerte, puis placer dans un récipient à déchets chimiques. Établir une digue autour de grands déversements pour élimination ultérieure.

Précautions pour la Protection de l'Environnement: Ne pas contaminer les sources d'eau ou les égouts. Endiguer la fuite ou le déversement si cela peut être fait sans danger.

7 – Manipulation et stockage

Précautions à prendre pour une manipulation sans danger: Éviter le contact avec les yeux. Se laver les mains soigneusement après manipulation. Se conformer aux bonnes pratiques d'hygiène industrielle. Porter un équipement de protection personnelle approprié. N'exposez pas à la chaleur intense comme le produit peut développer et pressuriser le récipient.

Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités: Conserver dans le récipient d'origine hermétiquement fermé. Éviter tout contact avec des agents comburants. Conserver à l'écart des matières incompatibles. Durée de conservation: 450 jours

8 – Risques d'exposition et protection individuelle

Paramètres de Contrôle

Valeurs Limites d'Exposition Professionnelle

Identité Chimique	Type	Valeurs Limites d'Exposition	Source
distillats paraffiniques lourds (pétrole), déparaffinés au solvant - Brouillard	TWA	5 mg/m3	Canada. Alberta VLE's. (Loi sur la santé et sécurité au travail, Règlement sur les risques chimiques, Règ. 398/88, Ch. 1) (07 2009)
	STEL	10 mg/m3	Canada. Alberta VLE's. (Loi sur la santé et sécurité au travail, Règlement sur les risques chimiques, Règ. 398/88, Ch. 1) (07 2009)
distillats paraffiniques lourds (pétrole), déparaffinés au solvant	8 HR ACL	5 mg/m3	Canada. OEL de la Saskatchewan (Règlement sur la santé et la sécurité au travail, 1996, tableau 21) (05 2009)
	15 MIN ACL	10 mg/m3	Canada. OEL de la Saskatchewan (Règlement sur la santé et la sécurité au travail, 1996, tableau 21) (05 2009)
distillats paraffiniques lourds (pétrole), déparaffinés au solvant - Brouillard	TWA	5 mg/m3	Canada. VLEs du Québec, (Ministère du Travail. Règlement sur la qualité du milieu de travail) (11 2011)
	STEL	10 mg/m3	Canada. VLEs du Québec, (Ministère du Travail. Règlement sur la qualité du milieu de travail) (11 2011)
distillats paraffiniques lourds (pétrole), déparaffinés au solvant - Brouillard	TWA	1 mg/m3	Canada. Colombie-Britannique VLE's. (Valeurs limite d'exposition pour les substances chimiques, Réglementation sur la santé et sécurité au travail 296/97, et ses modifications. (05 2013)
distillats paraffiniques lourds (pétrole), déparaffinés au solvant - Fraction inhalable.	TWA	5 mg/m3	Canada. Ontario VLE's. (Contrôle de l'exposition aux agents biologiques ou chimiques) (06 2015)
	TWA	5 mg/m3	Canada. Ontario VLE's. (Contrôle de l'exposition aux agents biologiques ou chimiques) (06 2015)

Contrôles Techniques Appropriés Aucune information disponible.

Mesures de protection individuelle, telles que les équipements de protection individuelle

Informations générales:	L'accès facile à l'eau abondante et à un dispositif de rinçage oculaire devra être garanti. Assurer une bonne ventilation générale (généralement 10 renouvellements d'air à l'heure). Le taux de renouvellement d'air devrait être adapté aux conditions. Si c'est approprié, clôtures de processus d'utilisation, ventilation d'échappement locale, ou d'autres commandes de technologie pour maintenir les niveaux aéroportés au-dessous des limites recommandées d'exposition. Si des limites d'exposition n'ont pas été établies, maintenez les niveaux aéroportés à un niveau acceptable.
Protection des yeux/du visage:	Porter des lunettes de sécurité à écrans latéraux ou des lunettes étanches.
Protection de la Peau	
Protection des Mains:	Aucune information disponible.
Autres:	Porter des vêtements de protection appropriés au risque d'exposition. Soyez conscient des autres dangers tels que les pièces en rotation. Contacter un professionnel de la santé et de la sécurité ou un fabricant pour obtenir des informations spécifiques.
Protection Respiratoire:	En cas de ventilation insuffisante, porter un appareil respiratoire approprié. Demander l'avis du superviseur sur les normes de protection respiratoire de la société.
Mesures d'hygiène:	Toujours adopter de bonnes pratiques d'hygiène personnelle, telles que lavage après manipulation de la substance et avant de manger, de boire ou de fumer. Laver régulièrement la tenue de travail pour éliminer les contaminants. Mettre au rebut les chaussures qui ne peuvent pas être lavées.

9 – Caractéristiques physiques et chimiques

Aspect	
État:	Liquide
Forme:	Aucune information disponible.
Couleur:	Orange
Odeur:	Légère, Pétrole/solvant
Seuil de perception de l'odeur:	Aucune information disponible.
pH:	non applicable
Point de fusion/point de congélation:	Aucune information disponible.
Température d'ébullition initiale et intervalle d'ébullition:	Aucune information disponible.
Point d'éclair:	177 °C

Taux d'évaporation:	Aucune information disponible.
Inflammabilité (solide, gaz):	Aucune information disponible.
Limites supérieures/inférieures d'inflammabilité ou d'explosivité	
Limites d'inflammabilité - supérieure (%):	Aucune information disponible.
Limites d'inflammabilité - inférieure (%):	Aucune information disponible.
Limites d'explosivité - supérieure (%) :	Aucune information disponible.
Limites d'explosivité - inférieure (%):	Aucune information disponible.
Pression de vapeur:	Aucune information disponible.
Densité de vapeur:	Aucune information disponible.
Densité:	Aucune information disponible.
Densité relative:	0.9297
Solubilités	
Solubilité dans l'eau:	Insoluble
Solubilité (autre):	Aucune information disponible.
Coefficient de partition (n-octanol/eau):	Aucune information disponible.
Température d'auto-inflammation:	Aucune information disponible.
Température de décomposition:	Aucune information disponible.
Viscosité:	44.5 mm2/s (40 °C)
AUTRES INFORMATIONS	
VOC:	15.5 % (Method 24) 1.1 g/l (ASTM E 1868-10)

10 – Stabilité et réactivité

Réactivité:	Non réactif pendant l'utilisation normale.
Stabilité Chimique:	Ce produit est stable dans des conditions normales.
Possibilité de Réactions Dangereuses:	Aucun(e)(s) dans les conditions normales.
Conditions à Éviter:	Éviter tout chauffage ou contamination.

Matières Incompatibles: Aucune information disponible.

Produits de Décomposition Dangereux: La décomposition thermique ou la combustion peut libérer des oxydes de carbone et d'autres gaz ou vapeurs toxiques. Contient un composant qui peut libérer substances inflammables, y compris triméthylpentène, par distillation dans les systèmes de récupération de solvant. Cela peut entraîner une accumulation dans le solvant du circuit

11 – Données toxicologiques

Informations sur les voies d'exposition probables

Inhalation: L'inhalation est la principale voie d'exposition. À concentration élevée, les vapeurs, émanations ou brouillards peuvent être irritants pour le nez, la gorge et les muqueuses.

Contact avec la Peau: Le contact prolongé avec la peau peut entraîner des rougeurs et de l'irritation.

Contact oculaire: Provoque une sévère irritation des yeux.

Ingestion: Peut être ingéré par accident. L'ingestion peut provoquer irritation et malaises. Peut être nocif en cas d'ingestion.

Symptômes liés aux caractéristiques physiques, chimiques et toxicologiques

Inhalation: Aucune information disponible.

Contact avec la Peau: Aucune information disponible.

Contact oculaire: Aucune information disponible.

Ingestion: Aucune information disponible.

Informations sur les effets toxicologiques

Toxicité aiguë (répertorier toutes les voies d'exposition possibles)

Ingestion
Produit: Non classé comme présentant une toxicité aiguë d'après les données disponibles.

Contact avec la peau
Produit: Non classé comme présentant une toxicité aiguë d'après les données disponibles.

Inhalation
Produit: Non classé comme présentant une toxicité aiguë d'après les données disponibles.

Effets différés et immédiats, et effets chroniques d'une exposition de courte et de longue durée
Produit: Aucune information disponible.

Corrosion ou Irritation de la Peau
Produit: Aucune information disponible.

Blessure ou Irritation Grave des Yeux
Produit: Aucune information disponible.

Sensibilisation Respiratoire ou Cutanée
Produit: Aucune information disponible.

Cancérogénicité
Produit: Aucune information disponible.

Monographies du CIRC sur l'évaluation des risques de cancérogénicité pour l'homme:
Aucun composant cancérigène identifié

États-Unis. Rapport du NTP (National Toxicilogy Program) sur les cancérogènes :
Aucun composant cancérigène identifié

Liste des cancérogènes de l'ACGIH:
Aucun composant cancérigène identifié

Mutagénicité des Cellules Germinales

In vitro
Produit: Aucune information disponible.

In vivo
Produit: Aucune information disponible.

Toxicité pour la reproduction
Produit: Aucune information disponible.

Toxicité Spécifique au Niveau de l'Organe Cible- Exposition Unique
Produit: Aucune information disponible.

Toxicité Spécifique au Niveau de l'Organe Cible- Expositions répétées
Produit: Aucune information disponible.

Risque d'Aspiration
Produit: Aucune information disponible.

Autres effets: Aucune information disponible.

12 – Données écologiques

Écotoxicité:

Risques aigus pour l'environnement aquatique:

Poisson
Produit: Aucune information disponible.

Invertébrés Aquatiques
Produit: Aucune information disponible.

Risques chroniques pour l'environnement aquatique:

Poisson
Produit: Aucune information disponible.

Invertébrés Aquatiques
Produit: Aucune information disponible.

Toxicité pour les plantes aquatiques
Produit: Aucune information disponible.

Persistance et Dégradabilité

Biodégradation
Produit: Aucune information disponible.

Rapport DBO/DCO
Produit: Aucune information disponible.

Potentiel de Bioaccumulation

Facteur de Bioconcentration (BCF)
Produit: Aucune information disponible.

Coefficient de Partage n-octanol/eau (log Kow)
Produit: Aucune information disponible.

Mobilité dans le Sol: Aucune information disponible.
Autres Effets Néfastes: Aucune information disponible.

13 – Recyclage

Instructions pour l'élimination: Le rejet, le traitement et l'élimination peuvent être soumis à des lois nationales, régionales ou locales. Éliminer les déchets dans une installation de traitement et d'élimination des déchets appropriée conformément aux lois et aux réglementations en vigueur et en fonction des caractéristiques du produit au moment de l'élimination. C'est la responsabilité de l'utilisateur de produit ou du propriétaire pour déterminer au moment de la disposition, qui se perdent les règlements doivent être appliqués.

Emballages Contaminés: Les conteneurs vides doivent être acheminés vers un site agréé pour le traitement des déchets à des fins de recyclage ou d'élimination.

14 – Transport

TDG
Non réglementé.

IMDG
Non réglementé.

IATA
Non réglementé.

15 – Réglementation

Réglementations fédérales du Canada
Liste des substances toxiques (LCPE, Annexe 1)

Identité Chimique
Zinc compound

Liste des substances d'exportation contrôlée (LCPE 1999, Annexe 3)
Non réglementé

Inventaire national des rejets de polluants (INRP)
Canada Substances de l'Inventaire national des rejets de polluants (INRP), partie 5, COV's faisant l'objet d'une déclaration plus détaillée

NPRI PT5	Non réglementé	

Canada. Loi canadienne sur la protection de l'environnement (CEPA). Inventaire national des rejets de polluants (INRP) (Gaz.Can. Partie I, 135:12, 940)

CAD PSL2	Zinc compound	Énumeré

Gaz à effet de serre
Non réglementé

16 – Renseignements divers

Rédaction : Ridge Tool Company (OPSTD 6-124)

Date de publication : le 17 août 2018
Dernière révision : le 1 mai 2018

Quoi que la société Ridge Tool estime que les affirmations, informations techniques et recommandations ci-présentes sont dignes de confiance, celles-ci ne sont données qu'à titre indicatif, sans aucune garantie expresse ou implicite, et ne sauraient engager la responsabilité civile de la société en cas de pertes, dommages et intérêts, voire frais directs ou indirects relevant de leur application.

RIDGID

SAFETY DATA SHEET

Section 1 – Product & Company Identification

Product Name:
RIDGID Endura-Clear Thread Cutting Oil (United States)

Product Catalog No.:
32808

Recommended Use:
Thread Cutting

Restrictions on Use:
Industrial use only

Company Information:

North America	Australia
Ridge Tool Company 400 Clark Street Elyria, Ohio 44035-6001 1-800-519-3456 (8:00 am – 5:00 pm EST, M-F) Emergency Telephone call 9-1-1 or local emergency number www.RIDGID.com	Ridge Tool Australia 127 Metrolink Circuit Campbellfield, VIC 3061 1-800-743-443 (8:30 am – 5:00 pm AEST, M-F) Emergency Telephone call 000 or local emergency number www.RIDGID.com.au

Issue Date: May 1, 2018

Revision: I

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• Castellano – pág. 21

Section 2 – Hazards Identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2A

Label Elements

Hazard Symbol:

Signal Word:	Warning
Hazard Statement:	Causes serious eye irritation.
Precautionary Statements	
Prevention:	Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
Response:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Other hazards which do not result in GHS classification: None.

Unknown toxicity - Health

Acute toxicity, oral	89.55 %
Acute toxicity, dermal	2.01 %
Acute toxicity, inhalation, vapor	12.19 %
Acute toxicity, inhalation, dust or mist	99.81 %

Section 3 – Composition / Information On Ingredients

General information: This product does not contain silicone or chlorinated additives.

Hazardous Component(s):

Chemical name	CAS-No.	Concentration
Mineral oil	Confidential	50 - <100%
Zinc compound	Confidential	1 - <3%

Specific chemical identities and/or exact percentages have been withheld as trade secrets.

Section 4 – First Aid Measures

Ingestion: Rinse mouth thoroughly. Call a POISON CENTER/doctor if you feel unwell. Do NOT induce vomiting.

Inhalation: Move to fresh air. Call a POISON CENTER/doctor if you feel unwell.

Skin Contact: Remove contaminated clothing and shoes. Wash contact areas with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

Section 5 – Fire Fighting Measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, fog, CO_2, dry chemical, or regular foam. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical:	Heat may cause the containers to explode. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away. Ensure adequate ventilation.
Methods and material for containment and cleaning up:	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

Section 7 – Handling And Storage

Precautions for safe handling:	Avoid contact with eyes. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Do not expose to intense heat as product may expand and pressurize container.
Conditions for safe storage, including any incompatibilities:	Store in original tightly closed container. Avoid contact with oxidizing agents. Store away from incompatible materials. Shelf Life: 450 Days

Section 8 – Exposure Controls / Personal Protection

Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
Mineral oil - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Protective Measures: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from supervisor on the company's respiratory protection standards.

Eye Protection: Wear safety glasses with side shields (or goggles).

Skin and Body Protection: Wear protective clothing appropriate for the risk of exposure. Be aware of other hazards such as rotating parts. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Section 9 – Physical And Chemical Properties

Appearance

Physical state:	Liquid
Form:	No data available.
Color:	Amber
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	not applicable
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	177 °C (351 °F)
Evaporation rate:	No data available.

Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	0.9297
Solubility(ies)	
Solubility in water:	Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	44.5 mm2/s (40 °C)
Other information	
VOC:	15.5 % (Method 24) 1.1 g/l (ASTM E 1868-10)

Section 10 – Stability And Reactivity

Reactivity:	Not reactive during normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	None under normal conditions.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Contains a component which may release flammable substances, including trimethylpentene, by distillation in systems with solvent recovery. This may lead to accumulation in the solvent circuit.

Section 11 – Toxicological Information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise. May be harmful if swallowed.

Inhalation: Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Prolonged skin contact may cause redness and irritation.

Eye contact: Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No data available.

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: Not classified for acute toxicity based on available data.

Dermal
Product:
Not classified for acute toxicity based on available data.

Inhalation
Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

Section 12 – Ecological Information

General information: This product has not been evaluated for ecological toxicity or other environmental effects.

Section 13 – Disposal Consideration

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. It is the responsibility of the product user or owner to determine at the time of disposal, which waste regulations must be applied.

Contaminated Packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14 – Transportation Information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

Section 15 – Regulatory Information

US Federal Regulations

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate (Acute) Health Hazards
Serious eye damage or eye irritation

SARA 313 (TRI Reporting)

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
Zinc compound	10000 lbs	25000 lbs.

US State Regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

Section 16 – Other Information

Prepared by:. . . . . Ridge Tool Company (Operating Standard 6-123)

Issue Date: . . . . . .May 1, 2018
Last Revision Date: . . . . . March 30, 2017

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RIDGID

FICHE SANTÉ/SÉCURITÉ

1 – Identification du produit et du fournisseur

Produit:
RIDGID Endura-Clear Thread Cutting Oil (Etats-Unis)

Réf. catalogue:
32808

Emploi recommandé:
Filetage mécanique

Restrictions d'utilisation:
Usage industriel seulement

Fournisseur:

North America
Ridge Tool Company
400 Clark Street
Elyria, Ohio 44035-6001
1-800-519-3456
(Etats-Unis) (du lundi au vendredi de 8h à 17h EST)
Téléphone d'urgence:
composer le 9-1-1 ou appeler les services d'urgences appropriés
www.RIDGID.com

Date de publication: le 1 mai 2018

Révision I

2 – Identification des risques

Classe de Danger

Dangers pour la Santé

Blessure ou Irritation Grave des Yeux Catégorie 2A

Éléments d'Étiquetage

Symbole de Danger:

Mention d'Avertissement: Attention

Mention de Danger: Provoque une sévère irritation des yeux.

Conseils de Prudence

Prévention: Se laver soigneusement après manipulation. Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.

Intervention: EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer. Si l'irritation oculaire persiste: consulter un médecin.

Autres dangers ne donnant pas lieu à classement selon le SGH: Aucun(e).

Toxicité inconnue - Santé

Toxicité aigüe, orale	89.55 %
Toxicité aigüe, dérmale	2.01 %
Toxicité aiguë, inhalation, vapeurs	12.19 %
Toxicité aiguë, inhalation, poussières ou brouillard	99.81 %

3 – Composition du produit et renseignements sur ses ingrédients

Informations générales: Ce produit ne contient pas de silicone ou d'additifs chlorés.

Composant(s) dangereux:

Désignation chimique	N° CAS	Concentration
Mineral oil	Confidentiel	50 - <100%
Zinc compound	Confidentiel	1 - <3%

Les identités chimiques spécifiques et-ou les pourcentages exacts ont été refusées comme les secrets commerciaux.

4 – Premiers soins

Ingestion: Rincer soigneusement la bouche. Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise. NE PAS faire vomir.

Inhalation: Transporter à l'air frais. Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise.

Contact avec la Peau: Enlever les vêtements et les chaussures contaminés. Laver les zones de contact à l'eau et au savon. En cas d'irritation cutanée: consulter un médecin.

Contact oculaire: Rincer immédiatement à grande eau pendant au moins 15 minutes. Enlever les lentilles de contact si cela est facile à faire. Consulter un médecin.

Symptômes/effets les plus importants, aigus et différés

Symptômes: Aucune information disponible.

Indication d'un besoin médical immédiat et traitement spécial requis

Traitement: Consulter un médecin en cas de symptômes.

5 – Lutte contre les incendies

Dangers d'Incendie Généraux: Aucun risque exceptionnel d'incendie et d'explosion.

Moyens d'extinction appropriés (et inappropriés)

Moyens d'extinction appropriés: Eau pulvérisée, brouillard, CO2, agent chimique sec ou mousse standard. Choisir le moyen d'extinction de l'incendie en tenant compte d'autres produits chimiques éventuels.

Moyens d'extinction inappropriés: Ne pas lutter contre l'incendie au jet d'eau pour ne pas propager les flammes.

Dangers spécifiques dus au produit chimique:	La chaleur peut provoquer l'explosion des récipients. En cas d'incendie, des gaz dangereux pour la santé peuvent se former.

Équipement de protection spécial et précautions pour les pompiers

Procédures spéciales de lutte contre l'incendie:	Aucune information disponible.
Équipement de protection spécial pour le personnel préposé à la lutte contre le feu:	Les pompiers doivent porter un équipement de protection standard, notamment vêtement ignifuge, casque à masque facial, gants, bottes en caoutchouc et, dans les espaces clos, un appareil respiratoire autonome.

6 – Lutte contre les déversements accidentels

Précautions individuelles, équipement de protection et procédures d'urgence:	Voir l'équipement de protection individuelle à la Section 8. Ne pas toucher les récipients endommagés ou le produit déversé à moins de porter les vêtements de protection appropriés. Maintenir à distance le personnel non autorisé. Assurer une ventilation adéquate.
Méthodes et matériel de confinement et de nettoyage:	Absorber le déversement avec de la vermiculite ou toute autre matière inerte, puis placer dans un récipient à déchets chimiques. Établir une digue autour de grands déversements pour élimination ultérieure.
Précautions pour la Protection de l'Environnement:	Ne pas contaminer les sources d'eau ou les égouts. Endiguer la fuite ou le déversement si cela peut être fait sans danger.

7 – Manipulation et stockage

Précautions à prendre pour une manipulation sans danger:	Éviter le contact avec les yeux. Se laver les mains soigneusement après manipulation. Se conformer aux bonnes pratiques d'hygiène industrielle. Porter un équipement de protection personnelle approprié. N'exposez pas à la chaleur intense comme le produit peut développer et pressuriser le récipient.
Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités:	Conserver dans le récipient d'origine hermétiquement fermé. Éviter tout contact avec des agents comburants. Conserver à l'écart des matières incompatibles. Durée de conservation: 450 jours

8 – Risques d'exposition et protection individuelle

Limites d'Exposition

Désignation chimique	Type	Valeurs Limites d'Exposition	Source
Mineral oil - Brouillard	PEL	5 mg/m3	Les Etats-Unis. La Table d'OSHA z-1 les Limites pour les Polluants Aériens (29 CFR 1910.1000) (02 2006)

Mesures de protection: L'accès facile à l'eau abondante et à un dispositif de rinçage oculaire devra être garanti. Assurer une bonne ventilation générale (généralement 10 renouvellements d'air à l'heure). Le taux de renouvellement d'air devrait être adapté aux conditions. Si c'est approprié, clôtures de processus d'utilisation, ventilation d'échappement locale, ou d'autres commandes de technologie pour maintenir les niveaux aéroportés au-dessous des limites recommandées d'exposition. Si des limites d'exposition n'ont pas été établies, maintenez les niveaux aéroportés à un niveau acceptable.

Protection respiratoire: En cas de ventilation insuffisante, porter un appareil respiratoire approprié. Demander l'avis du superviseur sur les normes de protection respiratoire de la société.

Protection des Yeux: Porter des lunettes de sécurité à écrans latéraux ou des lunettes étanches.

Protection de la peau et du corps: Porter des vêtements de protection appropriés au risque d'exposition. Soyez conscient des autres dangers tels que les pièces en rotation. Contacter un professionnel de la santé et de la sécurité ou un fabricant pour obtenir des informations spécifiques.

Mesures d'hygiène: Toujours adopter de bonnes pratiques d'hygiène personnelle, telles que lavage après manipulation de la substance et avant de manger, de boire ou de fumer. Laver régulièrement la tenue de travail pour éliminer les contaminants. Mettre au rebut les chaussures qui ne peuvent pas être lavées.

9 – Caractéristiques physiques et chimiques

Aspect

État:	Liquide
Forme:	Aucune information disponible.
Couleur:	Orange

Odeur:	Légère, Pétrole/solvant
Seuil de perception de l'odeur:	Aucune information disponible.
pH:	non applicable
Point de fusion/point de congélation:	Aucune information disponible.
Température d'ébullition initiale et intervalle d'ébullition:	Aucune information disponible.
Point d'éclair:	177 °C (351 °F)
Taux d'évaporation:	Aucune information disponible.
Inflammabilité (solide, gaz):	Aucune information disponible.
Limites supérieures/inférieures d'inflammabilité ou d'explosivité	
Limites d'inflammabilité - supérieure (%):	Aucune information disponible.
Limites d'inflammabilité - inférieure (%):	Aucune information disponible.
Limites d'explosivité - supérieure (%) :	Aucune information disponible.
Limites d'explosivité - inférieure (%):	Aucune information disponible.
Pression de vapeur:	Aucune information disponible.
Densité de vapeur:	Aucune information disponible.
Densité relative:	0.9297
Solubilités	
Solubilité dans l'eau:	Insoluble
Solubilité (autre):	Aucune information disponible.
Coefficient de partition (n-octanol/eau):	Aucune information disponible.
Température d'auto-inflammation:	Aucune information disponible.
Température de décomposition:	Aucune information disponible.
Viscosité:	44.5 mm2/s (40 °C)

AUTRES INFORMATIONS

VOC:	15.5 % (Method 24) 1.1 g/l (ASTM E 1868-10)

10 – Stabilité et réactivité

Réactivité:	Non réactif pendant l'utilisation normale.
Stabilité Chimique:	Ce produit est stable dans des conditions normales.
Possibilité de Réactions Dangereuses:	Aucun(e)(s) dans les conditions normales.
Conditions à Éviter:	Éviter tout chauffage ou contamination.

Matières Incompatibles:	Aucune information disponible.
Produits de Décomposition Dangereux:	La décomposition thermique ou la combustion peut libérer des oxydes de carbone et d'autres gaz ou vapeurs toxiques. Contient un composant qui peut libérer substances inflammables, y compris triméthylpentène, par distillation dans les systèmes de récupération de solvant. Cela peut entraîner une accumulation dans le solvant du circuit

11 – Données toxicologiques

Informations sur les voies d'exposition probables

Ingestion:	Peut être ingéré par accident. L'ingestion peut provoquer irritation et malaises. Peut être nocif en cas d'ingestion.
Inhalation:	L'inhalation est la principale voie d'exposition. À concentration élevée, les vapeurs, émanations ou brouillards peuvent être irritants pour le nez, la gorge et les muqueuses.
Contact avec la Peau:	Le contact prolongé avec la peau peut entraîner des rougeurs et de l'irritation.
Contact oculaire:	Provoque une sévère irritation des yeux.

Symptômes liés aux caractéristiques physiques, chimiques et toxicologiques

Ingestion:	Aucune information disponible.
Inhalation:	Aucune information disponible.
Contact avec la Peau:	Aucune information disponible.
Contact oculaire:	Aucune information disponible.

Informations sur les effets toxicologiques

Toxicité aiguë (répertorier toutes les voies d'exposition possibles)

Ingestion
Produit: Non classé comme présentant une toxicité aiguë d'après les données disponibles.

Contact avec la peau
Produit: Non classé comme présentant une toxicité aiguë d'après les données disponibles.

Inhalation
Produit: Non classé comme présentant une toxicité aiguë d'après les données disponibles.

Toxicité à dose répétée
Produit: Aucune information disponible.

Corrosion ou Irritation de la Peau
Produit: Aucune information disponible.

Blessure ou Irritation Grave des Yeux
Produit: Aucune information disponible.

Sensibilisation Respiratoire ou Cutanée
Produit: Aucune information disponible.

Cancérogénicité
Produit: Aucune information disponible.

Monographies du CIRC sur l'évaluation des risques de cancérogénicité pour l'homme:
Aucun composant cancérigène identifié

États-Unis. Rapport du NTP (National Toxicilogy Program) sur les cancérogènes :
Aucun composant cancérigène identifié

ÉTATS-UNIS. Substances spécialement réglementées par l'OSHA (29 CFR 1910.1001-1050):
Aucun composant cancérigène identifié

Mutagénicité des Cellules Germinales

In vitro
Produit: Aucune information disponible.

In vivo
Produit: Aucune information disponible.

Toxicité pour la reproduction
Produit: Aucune information disponible.

Toxicité Spécifique au Niveau de l'Organe Cible- Exposition Unique
Produit: Aucune information disponible.

Toxicité Spécifique au Niveau de l'Organe Cible- Expositions répétées
Produit: Aucune information disponible.

Risque d'Aspiration
Produit: Aucune information disponible.

Autres effets: Aucune information disponible.

12 – Données écologiques

Informations générales: Ce produit n'a pas été évalué pour la toxicité écologique ou d'autres effets de l'environnement.

13 – Recyclage

Instructions pour l'élimination: Le rejet, le traitement et l'élimination peuvent être soumis à des lois nationales, régionales ou locales. Éliminer les déchets dans une installation de traitement et d'élimination des déchets appropriée conformément aux lois et aux réglementations en vigueur et en fonction des caractéristiques du produit au moment de l'élimination. C'est la responsabilité de l'utilisateur de produit ou du propriétaire pour déterminer au moment de la disposition, qui se perdent les règlements doivent être appliqués.

Emballages Contaminés: Les conteneurs vides doivent être acheminés vers un site agréé pour le traitement des déchets à des fins de recyclage ou d'élimination.

14 – Transport

Ministère des transports des États-Unis (Department of Transportation, DOT)
Non réglementé.

IMDG
Non réglementé.

IATA
Non réglementé.

15 – Réglementation

Réglementations Fédérales des Etats-Unis

ÉTATS-UNIS. Substances spécialement réglementées par l'OSHA (29 CFR 1910.1001-1050)
Aucun présent ou aucun présent dans des quantités réglementées.

Superfund Amendments and Reauthorization Act de 1986 (SARA)

Catégories de danger
Dangers immédiats (aigus) pour la santé
Lésions oculaires graves ou irritation oculaire

SARA 313 (Déclaration au TRI)

Identité Chimique	Seuil de déclaration pour les autres utilisateurs	Seuil de signalement pour la fabrication et la transformation
Zinc compound	10000 lbs	25000 lbs.

États-Unis - Réglementation des États

États-Unis - Proposition 65 de la Californie
Aucun composant réglementé par la Proposition 65 de la Californie n'est présent.

16 – Renseignements divers

Rédaction :	Ridge Tool Company (OPSTD 6-123)
Date de publication :	le 1 mai 2018
Dernière révision :	le 30 mars 2017

Quoi que la société Ridge Tool estime que les affirmations, informations techniques et recommandations ci-présentes sont dignes de confiance, celles-ci ne sont données qu'à titre indicatif, sans aucune garantie expresse ou implicite, et ne sauraient engager la responsabilité civile de la société en cas de pertes, dommages et intérêts, voire frais directs ou indirects relevant de leur application.

RIDGID

HOJA DE DATOS DE SEGURIDAD

Sección 1 – Identificación del producto y la compañía

Nombre del producto:
RIDGID Endura-Clear Thread Cutting Oil (Estados Unidos)

No. de catálogo:
32808

Uso recomendado:
Para cortar roscas

Restricciones de utilización:
Uso industria seulement

Nombre de la compañía:

North America
Ridge Tool Company
400 Clark Street
Elyria, Ohio 44035-6001, EE. UU.
Teléfono 1-800-519-3456 (EE. UU.) (8:00 a 17:00 hora estándar del este, lunes a viernes)
Teléfono de emergencia: Llame al 9-1-1 o al teléfono de emergencia local
www.RIDGID.com

Fecha de publicación: 1 de mayo de 2018

Révision: I

Sección 2 – Identificación de peligros

Clasificación de Peligro

Peligros para la Salud

Lesiones Oculares Graves/Irritación Ocular	Categoría 2A

Elementos de la Etiqueta

Símbolo de Peligro:

Palabra de Advertencia: Atención

Indicación de Peligro: Provoca irritación ocular grave.

Consejos de Prudencia

Prevención: Lavarse concienzudamente tras la manipulación. Llevar guantes/prendas/gafas/máscara de protección.

Respuesta: EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado. Si persiste la irritación ocular: Consultar a un médico.

Otros peligros que no dan lugar a clasificación SGA: Ninguno.

Toxicidad desconocida - Salud

Toxicidad aguda, oral	89.55 %
Toxicidad aguda, cutánea	2.01 %
Toxicidad aguda, por inhalación de vapor	12.19 %
Toxicidad aguda, por inhalación de polvo o niebla	99.81 %

Producto: RIDGID Endura-Clear Thread Cutting Oil (Estados Unidos)

Sección 3 – Composición e información sobre ingredientes

Información general: Este producto no contiene silicona o aditivos clorados.

Componente(s) peligroso(s):

Determinación química	No. CAS	Concentración
Mineral oil	Confidencial	50 - <100%
Zinc compound	Confidencial	1 - <3%

Las identidades químicas específicas y/o los porcentajes exactos han sido retenidos como secretos de fabricación.

Sección 4 – Primeros auxilios

Ingestión: Enjuagar a fondo la boca. Llamar a un CENTRO DE TOXICOLOGÍA / médico si la persona se encuentra mal. NO provocar el vómito.

Inhalación: Trasladar al aire libre. Llamar a un CENTRO DE TOXICOLOGÍA / médico si la persona se encuentra mal.

Contacto con la Piel: Quitar ropa y zapatos contaminados. Lave las áreas de contacto con agua y jabón. En caso de irritación cutánea: Consultar a un médico.

Contacto con los ojos: Enjuagar inmediatamente los ojos con agua abundante durante por los menos 15 minutos. Si resulta fácil, quitar las lentes de contacto. Conseguir atención médica.

Los síntomas y efectos más importantes, tanto los agudos como los retardados

Síntomas: No hay datos disponibles.

Indicación de asistencia médica inmediata y tratamiento especial necesario

Tratamiento: Obtenga atención médica en caso de síntomas.

Sección 5 – Medidas contra incendios

Riesgos Generales de Incendio: Ningún riesgo excepcional de incendio o explosión señalado.

Medios de extinción adecuados (y no adecuados)

Medios de extinción apropiados: Agua pulverizada, neblina, CO2, polvos químicos, o espuma normal Seleccione el medio de extinción más apropiado, teniendo en cuenta la posible presencia de otros productos químicos.

Medios de extinción no apropiados:	No utilice chorro de agua, pues extendería el fuego.
Peligros específicos derivados de la sustancia química:	El calor puede ocasionar explosión de los recipientes. En caso de incendio se pueden formar gases nocivos.

Equipo especial de protección y medias de precaución para los bomberos

Medidas especiales de lucha contra incendios:	No hay datos disponibles.
Equipos de protección especial que debe llevar el personal de lucha contra incendios:	Los bomberos deben utilizar un equipo de protección estándar incluyendo chaqueta ignífuga, casco con careta, guantes, botas de goma, y, en espacios cerrados, equipo de respiración autónomo (SCBA, según sus siglas en inglés).

Sección 6 – Medidas en caso de liberación accidental

Precauciones personales, equipo de protección y procedimientos de emergencia:	Consulte la sección 8 de la FDS sobre equipo de protección personal. No toque los recipientes dañados o el material derramado a menos que esté usando ropa protectora adecuada. Mantener alejado al personal no autorizado. Asegúrese una ventilación apropiada.
Métodos y material de contención y de limpieza:	Absorber los derrames con vermiculita u otro material inerte colocándolo luego en un contenedor para residuos químicos. Preparar diques delante de los derrames grandes para luego facilitar la eliminación.
Precauciones Relativas al Medio Ambiente:	No contamine el drenaje o el alcantarillado. Impedir nuevos escapes o derrames de forma segura.

Sección 7 – Manipulación y almacenamiento

Precauciones para una manipulación segura:	Evítese el contacto con los ojos. Lavarse las manos concienzudamente tras la manipulación. Respete las normas para una manipulación correcta de productos químicos. Use equipo protector personal adecuado. No exponga al calor intenso cuando el producto puede ampliar y presurizar el contenedor.
Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades:	Guárdese en el recipiente original bien cerrado. Evite el contacto con agentes reductores. Consérvese alejado de materiales incompatibles. Vida útil: 450 días

Sección 8 – Controles contra la exposición: protección personal

Valores Límite

Determinación química	Tipo	Valores Límite de Exposición	Fuente
Mineral oil - Niebla	PEL	5 mg/m3	NOS. OSHA la tabla Z-1 límites para contaminantes del aire (29 CFR 1910.1000) (02 2006)

Medidas de protección: Tiene que haber acceso fácil a abundante agua y a botella para enjuagar los ojos. Debe haber una ventilación general adecuada (típicamente 10 renovaciones del aire por hora). La frecuencia de la renovación del aire debe corresponder a las condiciones. De ser posible, use campanas extractoras, ventilación aspirada local u otras medidas técnicas para mantener los niveles de exposición por debajo de los límites de exposición recomendados. Si no se han establecido ningunos límites de exposición, el nivel de contaminantes suspendidos en el aire ha de mantenerse a un nivel aceptable.

Protección respiratoria: En caso de ventilación insuficiente, utilice un equipo respiratorio adecuado. Consulte al supervisor sobre la norma de la compañía de protección respiratoria.

Protección de los Ojos: Use gafas de seguridad con protectores laterales (o gafas estancas).

Protección de la Piel y del Cuerpo: Use ropa protectora apropiada para el riesgo de exposición. Tenga en cuenta otros peligros, como las piezas giratorias. Comuníquese con el profesional o fabricante de salud y seguridad para obtener información específica.

Medidas de higiene: Seguir siempre buenas medidas de higiene personal, como lavarse después de manipular el material y antes de comer, beber y/o fumar. Lave rutinariamente la ropa de trabajo para eliminar los contaminantes. Deseche el calzado contaminado que no se pueda limpiar.

Sección 9 – Propiedades físicas y químicas

Aspecto

Forma/estado:	Líquido
Forma/Figura:	No hay datos disponibles.
Color:	Ámbar
Olor:	Ligero, petróleo/solvente
Umbral de olor:	No hay datos disponibles.
pH:	no aplicable
Punto de fusión / Punto de congelación:	No hay datos disponibles.
Punto inicial de ebullición e intervalo de ebullición:	No hay datos disponibles.
Punto de inflamación:	177 °C (351 °F)
Tasa de evaporación:	No hay datos disponibles.
Inflamabilidad (sólido, gas):	No hay datos disponibles.

Límites superior/inferior de inflamabilidad o de explosividad	
Límite superior de inflamabilidad (LSI) (%):	No hay datos disponibles.
Límite inferior de inflamabilidad (LII) (%):	No hay datos disponibles.
Límite superior de explosividad (%):	No hay datos disponibles.
Límite inferior de explosividad (%):	No hay datos disponibles.
Presión de vapor:	No hay datos disponibles.
Densidad del vapor:	No hay datos disponibles.
Densidad relativa:	0.9297
Solubilidad(es)	
Solubilidad en agua:	Insoluble
Solubilidad (otra):	No hay datos disponibles.
Coeficiente de reparto (n-octanol/agua):	No hay datos disponibles.
Temperatura de autoignición:	No hay datos disponibles.
Temperatura de descomposición:	No hay datos disponibles.
Viscosidad:	44.5 mm2/s (40 °C)
OTRA INFORMACIÓN	
VOC:	15.5 % (Method 24) 1.1 g/l (ASTM E 1868-10)

Sección 10 – Estabilidad y reactividad

Reactividad:	No reactivo durante uso normal.
Estabilidad Química:	El material es estable bajo condiciones normales.
Posibilidad de Reacciones Peligrosas:	Ningunos en circunstancias normales.
Condiciones que Deben Evitarse:	Evite el calor o la contaminación.
Materiales Incompatibles:	No hay datos disponibles.
Productos de Descomposición Peligrosos:	La descomposición térmica o la combustión pueden liberar óxido de carbono u otros gases o vapores tóxicos. Contiene un componente que puede liberar sustancias inflamables, incluyendo trimetilpenteno, por destilación en sistemas con recuperación de disolvente. Esto puede conducir a la acumulación en el circuito de disolvente.

Sección 11 – Información toxicológica

Información sobre posibles vías de exposición

Ingestión: Puede ingerirse accidentalmente. La ingestión puede causar irritación y malestar. Puede ser nocivo en caso de ingestión.

Inhalación: La inhalación es la principal vía de exposición. En concentraciones altas, los vapores, humos o neblinas pueden irritar la nariz, la garganta y las membranas mucosas.

Contacto con la Piel: El contacto prolongado con la piel puede causar rubor e irritación.

Contacto con los ojos: Provoca irritación ocular grave.

Síntomas relacionados a las características físicas, químicas y toxicológicas

Ingestión: No hay datos disponibles.

Inhalación: No hay datos disponibles.

Contacto con la Piel: No hay datos disponibles.

Contacto con los ojos: No hay datos disponibles.

Información sobre los efectos toxicológicos

Toxicidad aguda (listar todas las vías de exposición posibles)

Ingestión
Producto: No clasificado en cuanto a toxicidad aguda con los datos disponibles.

Contacto dermal
Producto:
No clasificado en cuanto a toxicidad aguda con los datos disponibles.

Inhalación
Producto: No clasificado en cuanto a toxicidad aguda con los datos disponibles.

Toxicidad por dosis repetidas
Producto: No hay datos disponibles.

Corrosión/Irritación Cutáneas

Producto: No hay datos disponibles.

Lesiones Oculares Graves/Irritación Ocular
Producto: No hay datos disponibles.

Sensibilización de la Piel o Respiratoria
Producto: No hay datos disponibles.

Carcinogenicidad
Producto: No hay datos disponibles.

Monografías de IARC sobre la evaluación de los riesgos carcinogénicos para los humanos:
No se identificaron componentes carcinogénicos

Programa Nacional de Toxicología de EUA (NTP). Reporte sobre carcinógenos:
No se identificaron componentes carcinogénicos

EEUU. OSHA Sustancias específicamente reguladas (29 CFR 1910.1001-1050):
No se identificaron componentes carcinogénicos

Mutagenicidad en Células Germinales

En vitro
Producto: No hay datos disponibles.

En vivo
Producto: No hay datos disponibles.

Toxicidad para la reproducción
Producto: No hay datos disponibles.

Toxicidad Sistémica Específica de Órganos Diana- Exposición Única
Producto: No hay datos disponibles.

Toxicidad Sistémica Específica de Órganos Diana- Exposiciones Repetidas
Producto: No hay datos disponibles.

Peligro por Aspiración
Producto: No hay datos disponibles.

Otros síntomas: No hay datos disponibles.

Sección 12 –Información ecológica

Información general: Este producto no ha sido evaluado para la toxicidad ecológica u otros efectos ambientales.

Sección 13 – Consideraciones relativas a la eliminación

Instrucciones para la eliminación: Las actividades de descarga, tratamiento o eliminación pueden estar sujetos a leyes nacionales, estatales o locales. Elimine el residuo en una instalación adecuada de tratamiento y eliminación de acuerdo con las leyes y reglamentos correspondientes y características del producto en el momento de la eliminación. Es responsabilidad del usuario del producto o propietario para determinar en el momento de la disposición, que las regulaciones de residuos debe ser aplicado.

Envases Contaminados: Los contenedores vacíos deben ser llevados a un sitio de manejo aprobado para desechos, para el reciclado o eliminación.

Sección 14 – Información de transporte

DOT
No reglamentado.

IMDG
No reglamentado.

IATA
No reglamentado.

Sección 15 – Información sobre reglamentos

Reglamentos Federales de EE.UU.

EEUU. OSHA Sustancias específicamente reguladas (29 CFR 1910.1001-1050)
No están presentes, o no están presentes en lascantidades reguladas.

Ley de Enmiendas y Reautorización del Superfondo de 1986 (SARA)

Categorías de peligro
Peligros inmediatos (agudos) para la salud
Lesiones o irritaciones oculares graves

SARA 313 (Reporte TRI, Acerca del Inventario de Liberación de Sustancias Tóxicas)

Identidad Química	Umbral de declaración para otros usuarios	Umbral de declaración para fabricación y procesamiento
Zinc compound	10000 lbs	25000 lbs.

Regulaciones de un Estado de EUA

Proposición 65 del Estado de California, EUA
No hay presencia de ningún ingrediente reguladopor CA Prop 65.

Sección 16 – Información adicional

Preparado por:	Ridge Tool Company (OPSTD 6-123)
Fecha de emisión:	1 de mayo de 2018
Fecha de la última revisión:	30 de mars de 2017

RIDGE TOOL CONSIDERA QUE TODAS LAS DECLARACIONES, INFORMACIÓN TÉCNICA Y RECOMENDACIONES EN EL PRESENTE DOCUMENTO SON CONFIABLES, PERO SE PRESENTAN SIN GARANTÍA ALGUNA, SEA EXPRESA O IMPLÍCITA, Y NO ASUMIMOS RESPONSABILIDAD ALGUNA POR PÉRDIDAS, DAÑOS O GASTOS, DIRECTOS O CONSECUENTES, QUE SURJAN DE SU USO.

Smith-Cooper International
2867 Vail Avenue
Commerce, CA 90040
Phone: +1 (800) 766-0076
Fax: +1 (323) 890-4456

SAFETY DATA SHEET

Last Updated: 04/17/2018

Section 1	IDENTIFICATION

PipeFit®

PipeFit Pint BIC PipeFit Qt. Flat top PipeFit Qt. BIC	PipeFit 5 gal PipeFit 55 gal

Manufacturer Information	Emergency Contact
Smith-Cooper International 2867 Vail Avenue Commerce, CA 90040 Phone: +1 (800) 766-0076 Fax: +1 (323) 890-4456	CHEMTREC 1300 Wilson Boulevard Arlington, VA 22209-2380 Phone: (800)424-9300 International: +1 (703) 527-3887

Product Use	Pipe thread sealant

Section 2	HAZARDS IDENTIFICATION
Hazard Classification	Non-hazardous
Eye Irrit. 2A, H319 Aquatic Acute 1, H400 Aquatic Chronic 3, H412	Warning
Hazard Statements	Causes eye irritation May cause skin irritation May cause respiratory irritation
Precautionary Statements	Avoid contact with skin and eyes. Do not breathe fumes. Always wash hands immediately after handling this product, and once again before leaving the workplace.
Prevention	Avoid contact with skin and eyes. Wear suitable gloves. Do not eat, drink, or smoke when using this product.

Response	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs; get medical advice/attention. IF INHALED**:** Remove person to fresh air and keep comfortable during breathing. IF IN EYES**:** Immediately flush eyes with plenty of water. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Obtain medical attention if pain, blinking or redness persists. Never give anything by mouth to an unconscious person. Get medical attention/advice if you feel unwell.
Storage	Storage conditions: Keep container closed when not in use. Incompatible products: Strong acids. Strong bases. Strong oxidizers. Solvents. Heat and ignition sources: Keep away from heat, sparks and flame. Prohibitions on mixed storage: Incompatible materials. Storage area: Store in dry, cool, well-ventilated area.
Disposal	Sewage disposal recommendations: Do not dispose of waste into sewer. Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Ecology - waste materials: Avoid release to the environment.

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	0 - 0.22
Phosphorodithioic acid, O,O-di-C1-14- alkyl esters, zinc salts	68649-42-3	0 - 0.22

Section 4 FIRST AID MEASURES

Inhalation	May cause irritation, coughing, shortness of breath.
Skin	Wash with plenty of soap and water. If skin irritation occurs; get medical advice/attention.
Eye	Immediately flush eyes with plenty of water. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Obtain medical attention if pain, blinking or redness persists.
Ingestion	Get medical advice/attention if you feel unwell.
Symptoms	Inhalation may cause: irritation, coughing, shortness of breath.
Medical Care	Treat symptomatically. Never give anything by mouth to an unconscious person. Get medical attention/advice if you feel unwell.

Section 5 FIRE FIGHTING MEASURES

Flash Point	150 °C
Extinguishing Media	Carbon dioxide. Dry chemical. Foam. Water Spray.
Special Firefighting Procedures/Equipment	Firefighting instructions: Cool adjacent structures and containers with water spray to protect and prevent ignition. Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus. Remove all unprotected personnel.
Unusual Fire and Explosion Hazards	Fire hazard: Burning produces irritating, toxic and noxious fumes. Explosion hazard: Product is not explosive. Reactivity: No dangerous reactions known.

Additional Information	No known unsuitable extinguishing media.

Section 6	**ACCIDENTAL RELEASE MEASURES**
Personal Precautions	General Measures: Avoid contact with skin and eyes. Wear suitable gloves. Emergency Responders: Wear suitable gloves. Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate area.
Environmental Precautions	Prevent entry to sewers and public waters.
Methods and Materials Use for Containment	Do not allow minor leaks or spills to accumulate on walking surfaces. Contain and collect as any solid.
Methods for Clean Up	Section 13: disposal information. Section 7: safe handling.

Section 7	***HANDLING AND STORAGE***
Handling	Avoid contact with skin and eyes. Do not breathe fume. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Do not eat, drink or smoke when using this product.
Storage	Storage conditions: Keep container closed when not in use. Incompatible products: Strong acids. Strong bases. Strong oxidizers. Solvents. Heat and ignition sources: Keep away from heat, sparks and flame. Prohibitions on mixed storage: Incompatible materials. Storage area: Store in dry, cool, well-ventilated area.

Section 8	**EXPOSURE CONTROLS/ PERSONAL PROTECTION**

Exposure Guidelines

Components	**CAS-No.**	**Type**	**Value**
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	68649-42-3	ACGIH: not applicable OSHA: not applicable	No established limit.

Engineering Controls	Avoid creating mist or spray. Ensure good ventilation of the work station.
Personal Protection	Eye protection: None under normal use.
	Hand protection: In case of repeated or prolonged contact wear gloves.
	Respiratory Protection: None under normal use.
General Measures	Keep out of reach of children. Do not eat, drink or smoke when using this product.

Section 9	**PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: White paste	**Evaporation Rate:** No data available
Odor: Mild	**Flammability:** No data available
Odor Threshold: No data available	**Upper/lower Flammability and/or Explosive Limits:** No data available
pH: No data available	**Vapor Pressure:** No data available
Melting Point/Freezing Point: No data available	**Vapor Density:** No data available
Boiling Point and Boiling Range: 177 °C	**Relative Density:** 1.48

Flash Point: 150 °C	**Solubility:** Insoluble in water
Partition Coefficient: No data available	**Auto-Ignition Temperature:** No data available
Decomposition Temperature: No data available	**Viscosity:** No data available
VOC content: 0 g/L	

Section 10	STABILITY AND REACTIVITY
Reactivity	No dangerous reactions known.
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Hazardous polymerization will not occur.
Conditions to Avoid	Heat and open flame.
Incompatible Materials	Strong acids. Strong bases. Strong oxidizers. Solvents.
Hazardous Decomposition	Carbon oxides (CO, CO2). Hydrogen fluoride. Perfluoro- carbon olefins.

Section 11	TOXICOLOGICAL INFORMATION
Ingestion Toxicity	0.22 percent of the mixture consists of ingredient(s) of unknown acute toxicity. LD50 oral rat: 26100 mg/kg ATE CLP (oral) 26100.000 mg/kg bodyweight
Skin Toxicity	Not Classified.
Eye Irritation	Not Classified.
Respiratory Irritation	Not Classified.
Chronic Toxicity	Not Classified.
Carcinogenicity	Not Classified.
Other	Potential adverse human health effects and symptoms: AFTER INHALATION: may cause irritation, coughing, shortness of breath. LIKELY ROUTES OF EXPOSURE: ingestion, skin and eye contact.

Section 12	ECOLOGICAL INFORMATION
Ecotoxicity	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3) LC50 fish 1 10 (10 - 35) mg/l Pimephales promelas OECD GDL 203 (water accomodated fraction) EC50 Daphnia 1 1 (1 - 1.5) mg/l OECD GDL 202 (water accomodated fraction) NOEC (acute) 10 mg/l Pimephales promelas OECD GDL 203 (water accomodated fraction) NOEC chronic crustacea < 1 mg/l
Degradability	Not readily biodegradable.

Other	N/A
Section 13	**DISPOSAL CONSIDERATIONS**
Waste Disposal Method	Sewage disposal recommendations: Do not dispose of waste into sewer. Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Ecology - waste materials: Avoid release to the environment.
Section 14	**TRANSPORT INFORMATION**
UN Number	Not applicable
UN Proper Shipping Name	Not applicable
Transport Hazard Class	In accordance with DOT and TDG. Not considered a dangerous good for transport regulations.
Canadian Transportation of Dangerous Goods	Listed on the Canadian DSL (Domestic Substances List) inventory.
Marine Pollutants	Do not dispose of waste into sewer.
Special Precautions	No additional information available.
Section 15	**REGULATORY INFORMATION**
TSCA Status	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3) Listed on the United States TSCA (Toxic Substances Control Act) inventory
SARA 311/312 Hazards	Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials. Must be preheated before ignition can occur. Normally stable, even under fire exposure conditions, and not reactive with water.
California Prop 65	Not applicable.
DSL Status (Canada)	Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3) Listed on the Canadian DSL (Domestic Substances List) inventory.
Section 16	**OTHER INFORMATION**
Additional Information	There are no Red List materials included in this product.
Prepared By	Human Resource Department
Revised Date	7/20/15
Disclaimer	Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, **Smith-Cooper International** makes no representations as to the completeness or accuracy thereof. **Smith-Cooper International** makes no warranty whatsoever, expressed or implied, of merchantability or fitness for the particular purpose since the conditions of use are beyond our control. **Smith-Cooper International** no responsibility for injury to recipient or to third persons for any damage to any property and recipient.

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SAFETY DATA SHEET

Last Updated: 9/17/2015

Section 1 IDENTIFICATION

LubeFit® Gasket Lubricant

Manufacturer Information	Emergency Contact
Fire Protection Products, Inc. 3198 Lionshead Avenue Carlsbad, CA 92010 Phone: +1 (800) 344-1822 Fax: +1 (800) 344-3775	CHEMTREC 1300 Wilson Boulevard Arlington, VA 22209-2380 Phone: +1 (800) 424-9300 International: +1 (703) 527-3887

Product Use	Joint Lubricant

Section 2 HAZARDS IDENTIFICATION

Hazard Classification	Not Hazardous
Skin Irritant: 3 Eye Irritant: 2B	Warning
Hazard Statements	Causes mild skin and eye irritation.
Precautionary Statements	Wash skin thoroughly after handling.
Prevention	Wash skin thoroughly after handling.
Response	If skin irritation occurs, get medical advice/attention. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep out of the reach of children.
Disposal	Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your supplier or a licensed contractor for detailed recommendations. Do not re-use empty containers.

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	Weight %
Mixed sodium and potassium salts of tall oil (soap)	68606-06-4 EINECS 271-723-9	15-25%

Section 4	FIRST AID MEASURES
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Skin	Wash off immediately with soap and water. If skin irritation persists, call a physician.
Eye	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Drink plenty of water. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately
Symptoms	Direct contact with eyes may cause temporary irritation. Prolonged or repeated skin contact may cause irritation.
Medical Care	If symptoms persist, call a physician.

Section 5	FIRE FIGHTING MEASURES
Flash Point	> 104° C/ > 220° F
Extinguishing Media	Water. Water spray (fog). Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical.
Special Firefighting Procedures/Equipment	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
Unusual Fire and Explosion Hazards	CAUTION: Use of water spray when fighting fires may be inefficient.
Additional Information	N/A

Section 6	ACCIDENTAL RELEASE MEASURES
Personal Precautions	Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Use personal protective equipment. Keep people away from and upwind of spill/leak.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.
Methods and Materials Use for Containment	Dike to collect large liquid spills. Prevent leakage or spillage if safe to do so.
Methods for Clean Up	Dam up. Soak up with inert absorbent material. Place the bulk of any spilled material into properly labeled containers. Rinse any remaining material to sewage treatment facility. Clean up in accordance with all applicable regulations.

Section 7	*HANDLING AND STORAGE*
Handling	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Do not take internally.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep out of the reach of children.

Section 8	EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Guidelines

Components	CAS-No.	Type	Value
Mixed sodium and potassium salts of tall soap.	68606-06-4 EINECS 271-723-9	Not hazardous to health	15-25%

Engineering Controls	Eyewash stations, Showers, Ventilation Systems.
Personal Protection	Eye/Face Protection: Wear protective eyeglasses or chemical safety goggles. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.
	Skin Protection: Wear chemically protective gloves to prevent prolonged or repeated skin contact.
	Respiratory Protection: If respirators are used, OSHA requires a written respiratory program that includes at least medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.
General Measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended.

Section 9	PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Paste, off-white	**Evaporation Rate:** N/A
Odor: Bland	**Flammability:** Not Determined.
Odor Threshold: Not Determined.	**Upper/lower Flammability and/or Explosive Limits:** N/A
pH: ≈9	**Vapor Pressure:** N/A
Melting Point/Freezing Point: < 0° C/< 32° F	**Vapor Density:** N/A
Boiling Point and Boiling Range: > 104° C/ > 220° F	**Relative Density:** g/mL
Flash Point: > 104° C/ > 220° F	**Solubility:** Not Determined.
Partition Coefficient: Not Determined.	**Auto-Ignition Temperature:** Not Determined.
Decomposition Temperature: Not Determined.	**Viscosity:** < 1%
VOC Content: 4 g/L	

Section 10	STABILITY AND REACTIVITY

Reactivity	Not reactive under normal conditions.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to Avoid	Contact with incompatible material.
Hazardous Decomposition	Carbon oxides.

Section 11	TOXICOLOGICAL INFORMATION
Ingestion Toxicity	Do not taste or swallow. **LD50 Oral** 22665 mg/kg: Acute toxicity estimate mg/kg mg/L
Skin Toxicity	May cause mild skin irritation.
Eye Irritation	Causes eye irritation.
Respiratory Irritation	Not a likely route of exposure.
Chronic Toxicity	Direct contact with eyes may cause temporary irritation. Prolonged or repeated contact may dry skin and cause irritation.
Carcinogenicity	This product does not contain and carcinogens or potential carcinogens as listed by OSHA, IARC, or NTP.
Other	N/A
Section 12	**ECOLOGICAL INFORMATION**
Ecotoxicity	The environmental impact of this product has not been fully investigated.
Degradability	No information available.
Other	No information available.
Section 13	**DISPOSAL CONSIDERATIONS**
Waste Disposal Method	Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your supplier or a licensed contractor for detailed recommendations. Don not re-use empty containers.
Section 14	**TRANSPORT INFORMATION**
UN Number	Not regulated.
UN Proper Shipping Name	Not regulated.
Transport Hazard Class	N/A
Canadian Transportation of Dangerous Goods	N/A
Marine Pollutants	N/A
Special Precautions	N/A

Section 15	REGULATORY INFORMATION
TSCA Status	All ingredients appear on inventory.
SARA 311/312 Hazards	Acute Health Hazard: Yes Chronic Health Hazard: No Fire Hazard: No Sudden Release of Pressure Hazard: No Reactive Hazard: No
California Prop 65	This product does not contain any Proposition 65 chemicals.
DSL Status (Canada)	All components of this product are listed or are exempt
Section 16	**OTHER INFORMATION**
Additional Information	There are no Red List materials included in this product.
Prepared By	Human Resource Department
Revised Date	September 17, 2015
Disclaimer	Although the information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof, **Fire Protection Products, Inc.** makes no representations as to the completeness or accuracy thereof. **Fire Protection Products, Inc.** makes no warranty whatsoever, expressed or implied, of merchantability or fitness for the particular purpose since the conditions of use are beyond our control. **Fire Protection Products, Inc.** assumes no responsibility for injury to recipient or to third persons for any damage to any property and recipient.

TYCO CPVC
TFP-600 One Step Solvent Cement
SDS (Safety Data Sheet)

SAFETY DATA SHEET

1. Identification

Product identifier	**TFP-600 Blazemaster CPVC Cement**
Other means of identification	None.
Recommended use	Joining CPVC Pipes
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company Name	Oatey Co.
Address	4700 West 160th St. Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency first aid	1-877-740-5015
Contact person	MSDS Coordinator
Supplier	
Company name	Tyco Fire Protection Products
Address	1400 Pennbrook Parkway Lansdale, PA 19446
Telephone	215-362-0700
E-mail	PSRA@tycofp.com
Transport emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency first aid	1-877-740-5015
Contact person	Product Stewardship

IMPORTANT
Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Section 1 excerpted from: Oatey 935557 SDS US

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	30-60
Methyl ethyl ketone	78-93-3	10-30
Ethene, chloro-, homopolymer, chlorinated	68648-82-8	10-20
Acetone	67-64-1	5-15
Cyclohexanone	108-94-1	5-15
Silica, amorphous, fumed	112945-52-5	1-5

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain. Irritation of nose and throat.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO_2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3
		1000 ppm
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3
		50 ppm
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3
		200 ppm

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	0.8 mg/m3
		20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm
	TWA	50 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
	TWA	590 mg/m3
		200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	6 mg/m3

Sections 7 and 8 excerpted from: Oatey 935557 SDS US

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Translucent liquid.
Color	Red.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	151 °F (66.11 °C)
Flash point	14.0 - 23.0 °F (-10.0 - -5.0 °C)
Evaporation rate	5.5 - 8
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.8
Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.94 +/- 0.02
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	1500 - 3500 cP
Other information	
Bulk density	8.1 lb/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC	470 g/l SQACMD Method 304

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	> 20 ml/kg
Inhalation		
LC50	Rat	50 mg/l, 8 Hours
Oral		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
Dermal		
LD50	Rabbit	948 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 4 hours
Oral		
LD50	Rat	800 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1)	3 Not classifiable as to carcinogenicity to humans.
Silica, amorphous, fumed (CAS 112945-52-5)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Section 11 excerpted from: Oatey 935557 SDS US

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	481 - 578 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Methyl ethyl ketone RQ = 43706 LBS, Acetone RQ = 58005 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Methyl ethyl ketone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)
Silica, amorphous, fumed (CAS 112945-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)
Silica, amorphous, fumed (CAS 112945-52-5)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 26-October-2016

Revision date -

Version # 01

HMIS® ratings
Health: 2
Flammability: 3
Physical hazard: 0

NFPA ratings

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Sections 15 and 16 excerpted from: Oatey 935557 SDS US

1400 Pennbrook Parkway, Lansdale, PA 19446 | Telephone +1-215-362-0700

SAFETY DATA SHEET
LOW PRESSURE POLYURETHANE FOAM SEALANTS (HC)

SECTION 1- PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifier

Product Name: Handi-Foam® HC Gun Foam, Handi-Foam® HC Straw Foam, Handi-Foam® Fireblock, Handi-Foam® Fireblock West, Handi-Foam® Black, Handi-Foam® Extreme, Handi-Foam® Window & Door, Handi-Foam® Window & Door West and Handi-Foam® Extreme Window & Door Polyurethane Foam Sealants

SDS ID Number **A16186**

1.2 Relevant identified uses of the substance or mixture and uses advised against

General Use One Component Polyurethane Foam Sealant

Uses advised against

1.3 Details of the supplier and of the safety data sheet

Manufacturer ICP Adhesives & Sealants, Inc.
2775 Barber Road
Norton, Ohio 44203
In Ohio: 330-753-4585; 1-800-321-5585 (Monday-Friday 8:00am-5:00pm EST)

1.4 Emergency telephone numbers

In the U.S.A CHEMTEL 1-800-255-3924

International Emergency CHEMTEL 1-813-248-0585

SECTION 2- HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Product definition: Mixture

Classification:
Flammable Aerosol- Category 1
Gases Under Pressure- Compressed Gas
Acute Toxicity Inhalation- Category 4
Skin Irritation- Category 2
Serious Eye Irritation- Category 2A
Respiratory Sensitizing- Category 1
Skin Sensitization – Category 1
Effects on or via lactation
Specific Target Organ Toxicity SE 3
Specific Target Organ Toxicity RE 2

2.2 Label elements

Hazard Symbols:

Signal Word: **DANGER**

Hazard Statements:
H222- Extremely flammable aerosol
H280- Contains gas under pressure; may explode if heated
H315- Causes Skin Irritation
H317- May cause an allergic skin reaction
H319- Causes Serious Eye Irritation
H332- Harmful if inhaled
H334- May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335- May cause respiratory irritation
H362- May cause harm to breastfed children
H373- May cause damage to organs through prolonged or repeated exposure

Prevention:
P102- Keep Out of Reach of Children
P202- Do not handle until all safety precautions have been read and understood
P210- Keep away from heat/sparks/open flames/hot surfaces-No Smoking
P211- Do not spray on an open flame or other ignition source
P251- Pressurized Container: Do not pierce or burn, even after use
P261- Avoid breathing vapors or fumes
P262- Do not get in eyes, on skin, or on clothing
P264- Wash hands and other skin areas exposed to material thoroughly after handling
P271- Use only outdoors or in a well-ventilated area
P280- Wear protective gloves, protective clothing and eye protection

P285- In case of inadequate ventilation wear respiratory protection

Response: P302+P352+P333+P313 IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314- Get medical advice if you feel unwell
P342+P311- If experiencing respiratory symptoms: Call a POISON CENTER or doctor
P381- Eliminate all ignition sources if safe to do so

Storage: P403+P405- Store in a well-ventilated place. Store locked up.
P410- Protect from sunlight
P412- Do not expose to temperatures exceeding 50°C/122°F.

Disposal: P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	Ingredient	CAS No.
40-70	Urethane Pre-Polymer Blend (Non-Hazardous Polyol Blend)	Not available
10-30	Alkanes, C14-C16, Chloro	85535-85-9
5-10	4,4' Diphenylmethane diisocyanate (MDI)	101-68-8
5-10	Polymethylene polyphenyl isocyanate (PMDI)	9016-87-9
3-7	Isobutane	75-28-5
3-7	Dimethyl ether	115-10-6
1-5	Propane	74-98-6

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

SECTION 4- FIRST AID MEASURES

4.1 Description of first aid measures

Eye: Immediately flush eyes with large amounts of water for at least 15 minutes, holding the eyes open with fingers and occasionally lifting the upper and lower lids. Use lukewarm water if possible. If present and easy to do so, remove contact lenses, If irritation persists, get medical attention.

Skin: In case of contact, immediately flush skin with plenty of soap and water. Foam will stick to skin, gently wipe product from skin with a damp cloth and wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention.

Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3 Notes to the physician

Symptoms may not appear immediately. If case of an accident or if you feel unwell, seek medical advice immediately (show label or SDS if possible).

SECTION 5- FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable methods of extinction: Use dry chemical, carbon dioxide, foam, Halon 1211 and water spray or fog.
Unsuitable methods of extinction: Do not use water jets and high pressure water as these may spread the fire

5.2 Special hazards arising from the substance or mixture

Contains flammable propellant. Eliminate all ignition sources. Containers may explode due to buildup of pressure when exposed to extreme heat. Aerosol cans exposed to fire or high temperature can rupture and rocket. Cured foam will burn in the presence of heat, oxygen and an ignition source.

5.3 Advice to firefighters

Products of combustion: May include and are not limited to: oxides of carbon, oxides of nitrogen, hydrogen fluoride, and traces of hydrogen cyanide.

Keep upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Use water spray to keep fire-exposed containers cool. Containers may explode if heated.

SECTION 6- ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition.

6.2 Environmental precautions

Do not allow to enter sewers, drains, or waterways

6.3 Methods and materials for containment and cleaning up

Method for containment: Uncured product is very sticky; carefully remove the bulk of the foam by scraping it up and then immediately remove the residue with a rag and solvent such as Handi-Cleaner, mineral spirits, acetone (nail polish remover), paint thinner, etc. Once the product is cured it can only be removed mechanically by scraping, buffing, etc. Use appropriate PPE.

Methods for cleaning up: Scoop up material and place in a disposal container. Dispose of as plastic waste in accordance with all applicable guidelines and regulations. Vapors can accumulate in low areas. Provide ventilation

6.4 Reference to other sections

For indications about waste treatment & disposal, see Section 13

See Section 7 for information about safe handling

SECTION 7- HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from sources of ignition- No smoking. Do not spray on an open flame or other ignition source. Pressurized container: do not pierce or burn, even after use. Container may explode if heated. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Do not swallow. Use only in a well-ventilated area or outdoors. Avoid welding or other “hot work” in the vicinity of exposed cured foam. When using do not eat, drink or smoke. (See section 8)

General hygiene advice: Launder contaminated clothing before reuse. Wash hands before eating, drinking or smoking.

7.2 Conditions for safe storage including any incompatibilities

Store in a dry place. Ideal use temperature is 65°F to 80°F (18°C to 27°C). Do not expose aerosol cans to open flame or temperatures above 122°F (50°C). Excessive heat can cause premature aging of components resulting in a shorter shelf life. Storage below 55°F (12.7°C) may affect foam quality if chemicals are not warmed to room temperature before using. Protect containers from physical abuse. Keep containers upright. **Keep away from children.**

SECTION 8- EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control Parameters

CAS No.	Ingredient	OSHA-PEL TWA	ACGIH-TLV	NIOSH	CA AB OEL CA BC OEL CA ON OEL CA QC OEL
101-68-8	4,4’ Diphenylmethane diisocyanate	0.02 PPM; 0.2 mg/m^3 Ceiling	0.005 ppm; 0.051 mg/m^3 (8 hours) TWA	0.005 ppm; 0.050 mg/m^3 TWA 0.02 ppm; 0.2 mg/m^3 CEIL	AB- 0.05 mg/m^3 0.005 ppm BC- 0.005 ppm TWA; 0.01 ppm C ON- 0.005 ppm TWA 0.02 ppm C QC- 0.051 mg/ m^3 0.005 ppm TWAEV
75-28-5	Isobutane		1,000 ppm TWA	800 ppm; 1,900 mg/m^3 TWA	AB- 1,000 ppm TWA BC- 1,000 ppm TWA ON- 1,000 ppm TWA
115-10-6	Dimethyl ether	1,000 ppm (Dupont AEL)			BC- 1,000 ppm TWA ON- 1,000 ppm TWA
74-98-6	Propane	1,000 ppm; 1,800 mg/m^3 TWA	1,000 ppm; 1,800 mg/m^3 TWA	1,000 ppm; 1,800 mg/m^3 TWA	AB-1,000 ppm TWA BC-1,000 ppm TWA QC- 1,800 mg/m^3 1,000 ppm TWAEV

8.2 Exposure Controls:

Engineering measures: Use ventilation adequate to keep exposures below recommended exposure limits.
Eye/face Protection: Wear protective safety glasses with side shields or goggles.
Hand Protection: Use chemically resistant gloves (i.e. Nitrile gloves). Nitrile/butadiene rubber, butyl rubber, polyethylene, PVC (vinyl), or neoprene gloves are also effective. Glove selection should take into account potential body reactions to certain materials and manufacturer's instructions for use. Break through time of selected gloves must be greater than the intended use period.
Other Protective Equipment: Use clothing that protects against dermal exposure. Appropriate protective clothing varies depending on the potential for exposure. To ensure proper skin protection, wear PPE in such a manner that no skin is exposed.
Respiratory Protection: If atmospheric levels are expected to exceed the exposure levels, use a NIOSH approved air purifying respirator equipped with an organic vapor cartridge and particulate filter. If atmospheric levels exceed 10 times the TLV or PEL level for which an air-purifying respirator is effective, use a powered air purifying respirator (PAPR). The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134).
Hygiene Measures: An eye wash station or portable eye wash station should be in the area. Wash hands thoroughly after use, before eating, drinking or using the lavatory. Employees/Users should be educated and trained in the safe use and handling of this product.

SECTION 9- Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Physical Form	Viscous liquid which forms off-white to yellowish foam upon release.
Color	Crème. Some products contain a dye or colorant i.e. Fireblock is orange.
Odor	Slight hydrocarbon odor during curing stage
Odor Threshold:	No data available
Physical State:	Gas/Pressurized Liquid/Semi-Solid
pH:	No data available
Melting Point/Freezing Point	No data available
Initial Boiling Point and Boiling Range	No data available
Flash Point:	-156°F (-68.9°C), estimated based on liquefied petroleum gas (Hydrocarbon HC)
Evaporation Rate:	No data available
Flammability:	Flammable
Lower Flammability/Explosive Limit:	No data available
Upper Flammability/Explosive Limit:	No data available
Vapor Pressure	Aerosol product > 50 psig/ 345 kPa
	Final product (sprayed): Very low (not determined)
Vapor Density:	Not available
Relative Density/Specific Gravity:	~ 1.1 (Water = 1)
Solubility:	Insoluble; reacts slowly with water during cure, liberating traces of CO_2
Partition coefficient: n-octanol/water:	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature;	No data available
Viscosity:	No data available
Explosive Properties:	May be sensitive to mechanical impact or static discharge. Vapor released during and immediately after dispensing may accumulate and ignite explosively if proper ventilation is not employed. Extinguish or remove all sources of ignition during dispensing, until product becomes tack free or skins over.
Oxidizing Properties:	No data available
VOC Content (calculated minus exempt compounds and water)	165 g/l (Handi-Foam Fireblock West and Handi-Foam Window & Door West 160 g/l)

SECTION 10- STABILITY AND REACTIVITY

10.1 Reactivity
No dangerous reaction known under conditions of normal use.

10.2 Chemical Stability
Stable under normal storage conditions. Contents under pressure. Container may explode if heated. Do not pierce or burn, even after use. Avoid temperatures below 40°F (4°C). For longest shelf life, avoid storage above 100°F (38°C).

10.3 Possibility of Hazardous Reactions
Elevated temperatures can cause product to decompose, releasing carbon dioxide. Flammable propellant. Contents are under pressure and exposure to high temperature can cause containers to rupture or explode.

10.4 Conditions To Avoid
Heat. Incompatible materials. Sources of ignition. Avoid temperatures below 40°F (4°C) or temperatures above 100°F (38°C).

10.5 Incompatible Materials
Alcohols, strong bases, amines, metal compounds, ammonia, and strong oxidizers.

10.6 Hazardous Decomposition Products
See Section 5.2 for hazardous decomposition products due to combustion.

SECTION 11- TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

Signs and Symptoms of Exposure based on test data and/or information on the components, this material may produce the following health effects:

Eye: May cause eye irritation
Skin: May cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of skin. May cause an allergic reaction.
Inhalation: May be harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled
Ingestion: May be harmful if swallowed. May cause gastrointestinal irritation: stomach distress, nausea, or vomiting.
Chronic: Chlorinated paraffin (C14-C16) may cause harm to breastfed children.

Acute Oral Toxicity
Expected to have low acute oral toxicity
Acute inhalation toxicity
Expected to have low acute inhalation toxicity
Acute dermal toxicity
Expected to have low acute dermal toxicity
Skin irritation
Causes skin irritation
Eye irritation
Causes serious eye irritation
Sensitization
May cause skin and respiratory sensitization
Genotoxicity
Genetic toxicity data for MDI is inconclusive. Some in-vitro studies yielded positive results, while other test data was negative
Mutagenicity
Test data using laboratory animals was predominately negative
Specific organ toxicity- single exposure
May cause respiratory irritation
Specific organ toxicity- repeated exposure
May cause damage to the lungs, central nervous system and skin
Aspiration hazard
No data available

11.2 Delayed, Immediate, and Chronic Effects of Short and Long Term Exposure

MDI and PMDI: IARC Group 3 carcinogen- Not classifiable as to its carcinogenicity to humans. Not listed as a carcinogen by ACGIH, OSHA or NTP. MDI/PMDI did not cause birth defects in laboratory animals; fetal effects occurred only at high doses which were toxic to the mother. Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/PMDI (6mg/m^3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects. Chlorinated paraffins (C14-C16) may accumulate in body tissues and fluids rich in lipid content; therefore, this material may cause harm to breastfed children.

SECTION 12- ECOLOGICAL INFORMATION

12.1 Ecotoxicity

The aquatic toxicity of this product has not been experimentally determined. However, it is expected to have low acute aquatic toxicity based on the acute aquatic toxicity of the individual components and their concentration in this mixture.

12.2 Persistence and degradability

Product is not readily biodegradable. In aquatic and terrestrial environments, this material reacts with water

12.3 Bioaccumulative potential

Bioaccumulation potential is low

12.4 Mobility in soil

Expected to have low mobility based on product's reactivity with water

12.5 Other Adverse Effects

Propellant: Ozone Depletion Potential- 0; Global Warming Potential- 1

SECTION 13- DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Methods of disposal

Before disposing of containers, relieve container of any remaining foam and pressure. Allow dispensed product to fully cure before disposing. Never discard in a liquid state. This material must be disposed of in accordance with all local, regional, national, international regulations.

Other disposal recommendations:
Do not puncture or incinerate containers. Use appropriate Personal Protective Equipment.

SECTION 14- TRANSPORTATION

Shipping Information

Containers 1000 cu. cm. (1 liter) or less:

		Due to changes in December 2020: See shipping papers for exact 49 CFR descriptions.
Ground	Consumer Commodity ORM-D	Limited Quantity
Air	UN1950 Aerosols, Flammable 2.1 (Flammable Gas Label) LIMITED QUANTITY Packing Instructions (Cargo & Passenger) 203	UN1950 Aerosols, Flammable 2.1 (Flammable Gas Label) LIMITED QUANTITY Packing Instructions (Cargo & Passenger) 203
Water	UN1950 Aerosols, Flammable 2.1 (Flammable Gas Label) LIMITED QUANTITY	UN1950 Aerosols, Flammable 2.1 (Flammable Gas Label) LIMITED QUANTITY

SECTION 15- REGULATORY

15.1 Safety, health, and environmental regulations/ legislations specific for the substance or mixture

U.S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as a hazardous in accordance with OSHA 29 CFR 1910-1200
TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory. This product is not subject to TSCA 12(b) Export Notification.
Superfund Amendments and Reauthorization Act (SARA)
SARA Section 311/312 Hazard Categories: Acute Health Hazard, Chronic Health Hazard, Fire Hazard, Reactive Hazard, Sudden Release of Pressure Hazard
SARA 313 Information: MDI and PMDI are subject to reporting levels established by Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.
SARA 302/304 Extremely Hazardous Substance: No components of the product exceed the threshold (de minimis) reporting levels established by these sections of the Title III of SARA.
SARA 302/304 Emergency Planning & Notification: No components of the product exceed the threshold (de minimis) report levels established by these sections of the Title III of SARA.
Comprehensive Response Compensation and Liability Act (CERCLA): This product contains the following CERCLA reportable substances: 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8), RQ- 2,268 kg (5,000 lbs).
Clean Air Act (CAA) - 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed as a Hazardous Air Pollutant (HAP) designated in CAA Section 112 (b). This product does not contain any Class 1 or Class 2 Ozone depletors.
Clean Water Act (CWA) - 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed as a Hazardous Substance under the CWA. None of the chemicals in these products are listed as Priority Pollutants under the CWA. None of the chemicals listed in these products are listed as Toxic Pollutants under the CWA.

U.S. State Regulations:

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: None of the chemicals are listed.
Other U.S. State Inventories:
4, 4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/air Pollutants lists: CA, DE, ID, IL, ME, MA, MN, NJ, PA, WA, WI
Polymeric MDI (CAS #9016-87-9) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: DE, NJ, MN
Isobutane (CAS #75-28-5) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: DE, ME, MA, MN, NJ, PA
Dimethyl ether (CAS #115-10-6) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: DE, ME, MA, MN, NJ, PA
Propane (CAS #74-98-6) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: DE, MA, MN, NJ, PA, WA

Canada
Consumer Chemicals & Containers Regulation Hazard Symbols:


Flammable


Pressurized Container

Canada Controlled Product Regulations (CPR): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation, and the SDS contains all the information required by the Controlled Products Regulations.
Canadian Ingredient Disclosure List (IDL): 4,4'- Diphenylmethane diisocyanate (CAS #101-68-8) is listed on the IDL.
Canadian National Pollutant Release Inventory (NPRI): MDI and PMDI are listed on the NPRI

Global Chemical Inventory Lists:
United States: Toxic Substance Control Act (TSCA)- Yes
Canada: Domestic Substances List (DSL)- Yes
Canada: Non-Domestic Substances List (NDSL)- No

15.2 Chemical safety assessment: For this product a chemical safety assessment was not carried out

SECTION 16- OTHER

NFPA: Health Hazard 2; Flammability 3; Reactivity 1
HMIS: Health Hazard 2; Flammability 3; Physical Hazard 1
Hazard Rating: 0=minimal, 1= slight, 2=moderate, 3=severe, 4= extreme

Legend:
ACGIH- American Conference of Governmental Industrial Hygienists
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
C- Ceiling Limit
CA AB OEL- Alberta, Canada Occupational Exposure Limit
CA BC OEL- British Columbia, Canada Occupational Exposure Limit
CA ON OEL- Ontario, Canada Occupational Exposure Limit
CA QC OEL- Quebec, Canada Occupational Exposure Limit
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DOT: US Department of Transportation
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
STEL- Short Term exposure limit
TWA- Time weighted average
TWAEV- Time weighted average exposure value
WEEL- US workplace environmental exposure levels

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representations or warranties, either expressed or implied, of merchantability or fitness for a particular use are made hereunder with respect to this information or the product to which information refers.
Information contained herein is deemed to be reliable, conservative and accurate. ICP Adhesives & Sealants, Inc. reserves the right to change the design, specifications or any other features at any time and without notice, while otherwise maintaining regulatory compliance.

Revision- September 12, 2018 Version 2.7 (Replaces Version 2.6- April 23, 2018)

Safety Data Sheet
California CARB Compliant

1 - Identification

Product Name: WD-40 Multi-Use Product Aerosol **Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion** **Restrictions on Use: None identified** **SDS Date Of Preparation: March 5, 2019**	**Manufacturer: WD-40 Company** **Address: 9715 Businesspark Avenue San Diego, California, USA 92131** **Telephone:** **Emergency: 1-888-324-7596** **Information: 1-888-324-7596** **Chemical Spills: 1-800-424-9300 (Chemtrec)** **1-703-527-3887 (International Calls)**

2 – Hazards Identification

Hazcom 2012/GHS Classification:
Flammable Aerosol Category 1
Gas Under Pressure: Compressed Gas
Aspiration Toxicity Category 1
Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)

Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.

Label Elements:

DANGER!
Extremely Flammable Aerosol.
Contains gas under pressure; may explode if heated.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.

Prevention
Keep away from heat, sparks, open flames, hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Avoid breathing vapors or mists.
Use only outdoors or in a well-ventilated area.

Response
IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage
Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place.

Disposal
Dispose of contents and container in accordance with local and national regulations.

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US Hazcom 2012/ GHS Classification
LVP Aliphatic Hydrocarbon	64742-47-8	45-50%	Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35%	Not Hazardous
Aliphatic Hydrocarbon	64742-47-8	<25%	Flammable Liquid Category 3 Aspiration Toxicity Category 1 Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)
Carbon Dioxide	124-38-9	2-3%	Simple Asphyxiant Gas Under Pressure, Compressed Gas

Note: The specific chemical identity and exact percentages are a trade secret.

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.
Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.
Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.
Signs and Symptoms of Exposure: Harmful or fatal if swallowed. Aspiration of liquid into the lungs during swallowing or vomiting may cause lung damage. May cause eye and respiratory irritation. Inhalation of mists or vapors may cause drowsiness, dizziness and other nervous system effects. Skin contact may cause drying of the skin.
Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.
Specific Hazards Arising from the Chemical: Extremely flammable aerosol. Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.
Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area.
Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Precautions for Safe Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.

Conditions for Safe Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol. Store away from oxidizers.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
LVP Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m3 TWA (Inhalable) ACGIH TLV (as Mineral oil) 5 mg/m3 TWA OSHA PEL (as Oil mist, mineral)
Aliphatic Hydrocarbon	1200 mg/m3 TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA, 30,000 ppm STEL ACGIH TLV 5000 ppm TWA OSHA PEL

The Following Controls are Recommended for Normal Consumer Use of this Product

Appropriate Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact. Always spray away from your face.

Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Appropriate Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety goggles recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Odor:	Mild petroleum odor	Vapor Pressure:	95-115 PSI @ 70°F
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point:	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	138°F (59°C) Tag Closed Cup (liquid)	Autoignition Temperature:	Not established

Evaporation Rate:	Not established	Decomposition Temperature:	Not established
Flammability (solid, gas):	Flammable Aerosol	Viscosity:	2.79-2.96 cSt @ 100°F
VOC:	24.1% MIR=0.43gO3/gVOC	Pour Point:	-63°C (-81.4°F) ASTM D-97

10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions
Chemical Stability: Stable
Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.
Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:
Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.
Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.
Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.
Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.
Chronic Effects: None expected.
Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.
Reproductive Toxicity: None of the components is considered a reproductive hazard.
Numerical Measures of Toxicity:
Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available; however components of this product are not expected to be harmful to aquatic organisms
Persistence and Degradability: Components are readily biodegradable.
Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.
Mobility in Soil: No data available
Other Adverse Effects: None known

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: UN1950, Aerosols, 2.1 Ltd. Qty
(Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)
IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY
ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1

NOTE: WD-40 Company does not test aerosol cans to assure that they meet the pressure and other requirements for transport by air. We do not recommend that our aerosol products be transported by air.

15 – Regulatory Information

U.S. Federal Regulations:
CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
SARA TITLE III:
Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure
Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None
Section 302 Extremely Hazardous Substances (TPQ): None
EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning.
VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.
Canadian Environmental Protection Act: All of the ingredients are listed on the Canadian Domestic Substances List or exempt from notification

16 – Other Information

HMIS Hazard Rating:
Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Physical Hazard – 0 (minimal hazard)

Revision Date: March 5, 2019 Supersedes: July 19, 2018

Revision Summary: Section 9 update VOC data

Prepared by: Industrial Health & Safety Consultants, Inc. Shelton, CT, USA

Reviewed by: I. Kowalski Regulatory Affairs Dept.

1012200/No.0084704

Hilti Firestop Acrylic Sealant CFS-S ACR; CP 606

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 01/07/2016 Revision date: 01/07/2016 Supersedes: 01/07/2016 Version: 4.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	Mixture
Name	Hilti Firestop Acrylic Sealant CFS-S ACR; CP 606
Product code	BU Chemicals

1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Hilti (Canada) Corp.
2360 Meadowpine Boulevard
L5N 6S2 Mississauga, Ontario - Canada
T +1905 8139200
1-800-363-4458 toll free - F +1 905 813 9009

Supplier
Hilti (Canada) Corp.
2360 Meadowpine Boulevard
L5N 6S2 Mississauga, Ontario - Canada
T +1905 8139200
1-800-363-4458 toll free - F +1 905 813 9009

Department issuing data specification sheet
Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number: Chem-Trec
Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
Tel.: 703 527 3887 (Other countries)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-CA)

Not classified

2.2. Label elements

GHS-CA labelling

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting	Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1.For non-emergency personnel

No additional information available

6.1.2.For emergency responders

Protective equipment	For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Recover mechanically the product.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Wear personal protective equipment.
Hygiene measures	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Keep cool. Store in a dry place.
Storage temperature	5 - 25 °C

Hilti Firestop Acrylic Sealant CFS-S ACR; CP 606

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Personal protective equipment	Protective clothing. Safety glasses. Gloves.

Hand protection	Protective gloves. EN 374.
Eye protection	Safety glasses. EN 166. EN 170.
Skin and body protection	Wear suitable protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Pasty.
Molecular mass	Not determined
Colour	red. white. Grey.
Odour	characteristic.
Odour threshold	Not determined
pH	≈ 9 Not applicable
Relative evaporation rate (butylacetate=1)	No data available
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	Not applicable
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.6 g/cm³
Solubility	No data available
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Not classified
Skin corrosion/irritation	Not classified pH: ≈ 9 Not applicable
Serious eye damage/irritation	Not classified pH: ≈ 9 Not applicable
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR)	Not applicable
Proper Shipping Name (IMDG)	Not applicable
Proper Shipping Name (IATA)	Not applicable
Proper Shipping Name (ADN)	Not applicable
Proper Shipping Name (RID)	Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	Not applicable

IMDG

Transport hazard class(es) (IMDG)	Not applicable

IATA

Transport hazard class(es) (IATA)	Not applicable

ADN

Transport hazard class(es) (ADN)	Not applicable

RID

Transport hazard class(es) (RID)	Not applicable

14.4. Packing group

Packing group (ADR)	Not applicable
Packing group (IMDG)	Not applicable
Packing group (IATA)	Not applicable
Packing group (ADN)	Not applicable
Packing group (RID)	Not applicable

14.5. Environmental hazards

Dangerous for the environment	No
Marine pollutant	No
Other information	No supplementary information available

14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

Carriage prohibited (ADN)	No
Not subject to ADN	No

- Rail transport

Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

National/international regulations

No additional information available

SECTION 16: Other information

SDS Major/Minor	None
Date of issue	07/01/2016
Revision date	07/01/2016
Supersedes	07/01/2016

SDS_CA_Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

Hilti Firestop Acrylic Sealant CFS-S ACR; CP 606

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Date of issue: 01/07/2016 Revision date: 01/07/2016 Supersedes: 01/07/2016 Version: 4.2

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form	Mixture
Name	Hilti Firestop Acrylic Sealant CFS-S ACR; CP 606
Product code	BU Chemicals

1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Hilti (Canada) Corp.
2360 Meadowpine Boulevard
L5N 6S2 Mississauga, Ontario - Canada
T +1905 8139200
1-800-363-4458 toll free - F +1 905 813 9009

Supplier
Hilti (Canada) Corp.
2360 Meadowpine Boulevard
L5N 6S2 Mississauga, Ontario - Canada
T +1905 8139200
1-800-363-4458 toll free - F +1 905 813 9009

Department issuing data specification sheet
Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number: Chem-Trec
Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
Tel.: 703 527 3887 (Other countries)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-CA)

Not classified

2.2. Label elements

GHS-CA labelling

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Protection during firefighting	Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1.For non-emergency personnel

No additional information available

6.1.2.For emergency responders

Protective equipment	For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Recover mechanically the product.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Wear personal protective equipment.
Hygiene measures	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Keep cool. Store in a dry place.
Storage temperature	5 - 25 °C

Hilti Firestop Acrylic Sealant CFS-S ACR; CP 606

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Personal protective equipment	Protective clothing. Safety glasses. Gloves.

Hand protection	Protective gloves. EN 374.
Eye protection	Safety glasses. EN 166. EN 170.
Skin and body protection	Wear suitable protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Pasty.
Molecular mass	Not determined
Colour	red. white. Grey.
Odour	characteristic.
Odour threshold	Not determined
pH	≈ 9 Not applicable
Relative evaporation rate (butylacetate=1)	No data available
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	Not applicable
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.6 g/cm³
Solubility	No data available
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Not classified
Skin corrosion/irritation	Not classified pH: ≈ 9 Not applicable
Serious eye damage/irritation	Not classified pH: ≈ 9 Not applicable
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR)	Not applicable
Proper Shipping Name (IMDG)	Not applicable
Proper Shipping Name (IATA)	Not applicable
Proper Shipping Name (ADN)	Not applicable
Proper Shipping Name (RID)	Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR)	Not applicable

IMDG

Transport hazard class(es) (IMDG)	Not applicable

IATA

Transport hazard class(es) (IATA)	Not applicable

ADN

Transport hazard class(es) (ADN)	Not applicable

RID

Transport hazard class(es) (RID)	Not applicable

14.4. Packing group

Packing group (ADR)	Not applicable
Packing group (IMDG)	Not applicable
Packing group (IATA)	Not applicable
Packing group (ADN)	Not applicable
Packing group (RID)	Not applicable

14.5. Environmental hazards

Dangerous for the environment	No
Marine pollutant	No
Other information	No supplementary information available

14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

Carriage prohibited (ADN)	No
Not subject to ADN	No

- Rail transport

Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

National/international regulations

No additional information available

SECTION 16: Other information

SDS Major/Minor	None
Date of issue	07/01/2016
Revision date	07/01/2016
Supersedes	07/01/2016

SDS_CA_Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

walker emulsions

A Walker Industries Company

Safety Data Sheet

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 01: Chemical Product and Company Identification

Manufacturer	Walker Emulsions Inc. 4401 SE Johnson Creek Blvd Portland, OR, USA 97222 503-659-1708
Supplier	as above
Prepared By	Walker Emulsions Inc. - Department of Research and Development Contact: Steven M. Brown 503-659-1708
Preparation Date	03/28/2011
Revision Date	02/09/2016
Product Number	103712 (prior to 11/1/15: PT1114.76)
CAS Number	Mixture
Chemical Formula	Not Applicable/Mixture
Material Use	Fire Sprinklers
24 Hour Emergency Number	Infotrak (800) 535-5053

Section 02: Hazards Identification

Signal Word:	Warning
Hazards:	H320 Causes eye irritation. Serious eye damage/eye irritation, Category 2B H313 May be harmful in contact with skin. Acute toxicity, Category 5 H335 May cause respiratory irritation. Specific target organ toxicity-single exposure, Category 3 H303 May be harmful if swallowed. Acute toxicity, Category 5
Prevention:	P102 Keep out of reach of children. P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P262 Do not get in eyes, on skin, or on clothing. P264 Wash skin thoroughly after handling.
Response:	P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/attention. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P332 + P313 If skin irritation occurs: Get medical advice/attention. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P315 + P342: If experiencing respiratory symptoms, get medical advice/attention.
Disposal:	P501: Dispose of contents/container in accordance with local regulations.
Effects of Acute Exposure	
Eye Contact	May cause slight temporary eye irritation. Corneal injury is unlikely. Mist may cause eye irritation.

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 02: Hazards Identification

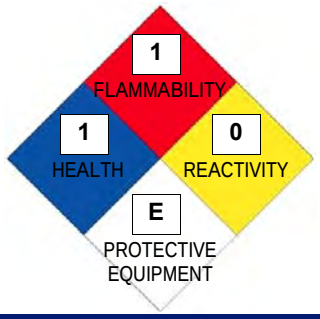
Ingestion	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.
Inhalation	At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).
Skin Absorption	Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Skin Contact	Prolonged contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of skin.
Effects of Chronic Exposure	In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Section 03: Composition and Information on Ingredients

Hazardous Ingredients

Ingred / %	Exposure Levels	C.A.S. #	TSCA	Hazard Rating		LD/LC, Route, Species
Propylene Glycol USP					*LD/50:*	See Section 11
38		57-55-6	Y	Health:1, Fire:1, React:0, PP:E	*LC/50:*	

HMIS Rating (0-4) Health:0, Fire:1, Reactivity:0, PP:B



Section 04: First Aid Measures

Skin Contact	Wash skin with plenty of water.
Inhalation	Move person to fresh air; if effects occur, consult a physician.
Ingestion	No emergency medical treatment necessary
Eye Contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Note to Physicians	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 05: Fire and Explosion Data

Flash Point, Method	217°F (103°C) Literature (PMCC)
Flash Range	Not Available
Auto Ignition Temperature	700°F (371°C) Literature
Flammability	Not available

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 05: Fire and Explosion Data

Special Procedures	Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.
Fire Hazards	Not Available
Explosion Hazards	Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.
Hazardous Combustion Products	Thermal decomposition products may include toxic oxides of carbon.
Explosive Range:	Not Available
Extinguishing Media	Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
Fire Fighting Media and Instructions	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Section 06: Accidental Release Measures

Leak/Spill	Contain spilled material if possible. Small spills: Any absorbent material. Collect in suitable and properly labeled open containers. Wash the spill site with large quantities of water. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information. Personal Precautions: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Section 07: Handling and Storage

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 07: Handling and Storage

Handling	Product handled hot may require additional ventilation or local exhaust. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. Store away from direct sunlight or ultraviolet light. Keep container tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture. Store in the following material(s): Stainless steel. Aluminum. Plasite 3066 lined container. 316 stainless steel. Opaque HDPE plastic container. Shelf life: Use within 24.0 Months Maximum storage temperature 40 deg C

Section 08: Exposure Control and Personal Protection

Protective Equipment	
Eye/Type	Safety glasses should be sufficient for most operations; however, for misty operations wear chemical goggles.
Respiratory/Type	Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor with acid gas cartridge and particulate pre-filter.
Gloves/Type	Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.
Clothing/Type	No precautions other than clean body-covering clothing should be needed.
Ventilation Requirements	Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.
Other Protective Equipment	No precautions other than clean body-covering clothing should be needed.
Other	Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.
Occupational Exposure Limits	No occupational exposure limits established by OSHA, ACGIH, or NIOSH.

Section 09: Physical and Chemical Properties

Physical State	Liquid
Appearance	Colorless
Viscosity (cPs, water=1)	(Dynamic) 48.6 mPs @ 77°F (25°C) Literature
Density	Not available
Volatility (vol%)	not available
Volatility (wt%)	Not Available
Specific Gravity	1.04
pH	Not applicable
Solubility in Water	(by 100% weight)
Odor	None

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 09: Physical and Chemical Properties

Odor threshold (ppm)	Not Available
Vapor Pressure (mm Hg)	0.3 mbar @ 77°F (25°C) Literature
Vapor Density (air=1)	2.62 Literature
Evaporation Rate (n-butyl acetate=1)	(Butyl 0.01 Estimated Acetate = 1)
Coefficient of water/oil distribution	Not Available
Boiling Point	369.3°F (187.4°C) Literature
Partition Coefficient	Not available
Freezing Point	No test data available
Melting Point	No test data available
VOC	Not available
Flash Point (TCC)	217°F (103° C) Literature (PMCC)
Pour Point ©	< -71°f (< -57°c) Literature
Molecular Weight	Not available
Explosive limits	Not Available
Flammability (solid, gas)	(IN AIR) Lower: 2.6 %(V) Estimated Upper: 12.5 %(V) Estimated
Auto-ignition temperature	700°F (371°C) Literature
Decomposition temperature	Not Available

Section 10: Stability and Reactivity Data

Hazardous Polymerization	Will not occur.
Chemical Stability	This product is stable under recommended storage conditions. See Storage, Section 7.
Incompatibility	Avoid contact with: Strong acids. Strong bases.Strong oxidizers.
Conditions to Avoid	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.
Reactivity Conditions	Not Available
Hazardous Products of Decomposition (thermal)	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Organic acids.

Section 11: Toxicological Information

Routes of Entry	Inhalation and/or ingestion.
Exposure Limits	Propylene Glycol USP
LD/50	Acute Toxicity Ingestion Rat 20,000 - 34,000 mg/kg Skin Absorption Rabbit > 20,000 mg/kg
LC/50	Not Applicable

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 11: Toxicological Information

TLV/TWA	Not Applicable
Carcinogenicity	This product does not contain any substance(s) listed as a carcinogen by NTP, IARC, or OSHA. Did not cause cancer in laboratory animals.
Teratogenicity/Mutagenicity	None Known
Reproductive Effects	Did not cause birth defects or any other fetal effects in laboratory animals. In animal studies, did not interfere with reproduction. In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.
Synergistic Materials	None Known
Additional Toxicological Data	In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Section 12: Ecological Information

Environmental

Movement & Partitioning
Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Henrys Law Constant (H): 1.2E-8 atm*m3/mole Measured
Partition coefficient, n-octanol/water (log Pow): -0.92 Measured
Partition coefficient, soil organic carbon/water (Koc): < 1 Estimated

Persistence and Degradability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.28E-11 cm3/s	10 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
81 %	28 d	OECD 301F Test
95.8 `)/0	64 d	OECD 306 Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
69%	70%	86%	

Chemical Oxygen Demand: 1.53 mg/mg
Theoretical Oxygen Demand: 1.68 mg/mg

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 12: Ecological Information

Ectotoxicological Information	Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested). Fish Acute & Prolonged Toxicity LC50, rainbow trout (Oncorhynchus mykiss), 96 h: 44,000 - 51,600 mg/L Aquatic Invertebrate Acute Toxicity EC50, water flea Daphnia magna, 48 h, immobilization: 4,850 - 34,000 mg/L LC50, saltwater mysid Mysidopsis bahia, static, 96 h: 18,800 mg/L Aquatic Plant Toxicity EC50, green alga Selenastrum capricornutum, biomass growth inhibition: 19,000 mg/L Toxicity to Micro-organisms EC50, OECD 209 Test; activated sludge, respiration inhibition, 3 h: > 1,000 mg/L
Biodegradability	Not Available

Section 13: Disposal Considerations

EPA Hazardous Waste Number	None
Waste Disposal	DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. VENDOR HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device.

Section 14: Transport Information

U.N. #	NA
T.D.G. Classification	NA
D.O.T. Classification	Not regulated
WHMIS Classification	NA

Section 15: Regulatory Information

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 15: Regulatory Information

U.S. Federal Regulations	OSHA Hazard Communication Standard This product is not a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312 Immediate (Acute) Health Hazard No Delayed (Chronic) Health Hazard No Fire Hazard No Reactive Hazard No Sudden Release of Pressure Hazard No Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313 To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute. US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
International Regulations	CEPA - Domestic Substances List (DSL) All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed. European Inventory of Existing Commercial Chemical Substances (EINECS) The components of this product are on the EINECS inventory or are exempt from inventory requirements.
US TSCA	All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30
State Regulations	California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 15: Regulatory Information

US State Regulations

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Propylene glycol USP	57-55-6	> 99.8 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Section 16: Other Information

PRODUCT: PROP. GLYCOL 38% BY VOLUME

Section 16: Other Information

Hazard Rating System

NFPA	Health	Fire	Reactivity
	0	1	0

Recommended Uses and Restrictions
Vendor recommends that you use this product in a manner consistent with the listed use.
Humectant and solvent for:
Foodstuffs. Flavors. Fragrances. Cosmetics. Pharmaceuticals. Personal care applications. Not for use in cat food.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information provided.

SAFETY DATA SHEET

Section 1: Product and Company Identification

Product Name: Ball Paint Marker®

Product Code: White – 84620, Yellow – 84621, Red – 84622, Black – 84623, Orange – 84624, Blue – 84625, Green – 84626

Product Use: Liquid paint marker for hard surfaces.

Supplier: LA-CO Industries, Inc.
1201 Pratt Boulevard
Elk Grove Village, IL.
60007-5746
E-mail Contact: customer_service@laco.com

Phone Number: (847) 956-7600
Fax: (847) 956-9885
24-hour Emergency: **CHEMTREC: (800) 424-9300**

Section 2: Hazards Identification

2.1 Classification of the substance or mixture according to GHS Classifications (UNECE 3rd Revised Edition):
Not classified as a hazardous chemical.

2.2 Label elements:
No hazard classifications.

2.3 Other hazards:
The paint inside the marker is a flammable liquid. Exposures to liquid and/or vapors from misuse of the product may cause eye irritation and/or drowsiness and dizziness. Exposure to hazardous substances is not expected when handling this product for its intended use.

2.4 Other hazard classifications:
Marker meets the definition of an "article".

USA: This article is not considered a hazardous chemical by the OSHA Hazard Communication Standard 29 CFR 1910.1200 (2012).

Canada: This article is not a controlled product under WHMIS.

European Union (EU): This article is not classified as hazardous according to CLP Regulation (EC) No 1272/2008.

Section 3: Composition / Information on Ingredients

Chemical Name	CAS No.	Wt.%	GHS Classifications according to UNECE 3rd Revised Edition
1-methoxypropan-2-ol	107-98-2	40 - 55	Flam. Liq. 3; H226 STOT SE 3; H336
Ethanol	64-17-5	5 - 10	Flam. Liq. 2; H225
2-methoxy-1-methylethyl acetate	108-65-6	0.1 – 1.3	Flam. Liq. 3; H226
Isopropanol	67-63-0	0.5 – 1.5	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation: If symptoms are experienced, remove source of contamination or have victim move to fresh air. Obtain medical advice.

Eye Contact: No effects expected. If liquid paint contacts the eyes, rinse cautiously for several minutes while holding the eyelids open. Obtain medical attention.

SAFETY DATA SHEET

Section 4: First Aid Measures, continued

Skin Contact: No health effects expected. If irritation does occur, flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.

Ingestion: No health effects expected. If swallowed, do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Obtain medical advice or call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and effects, both acute and delayed:

Exposure to hazardous substances is not expected when handling this product for its intended use.
Liquid paint may cause serious eye irritation if in contact with the eyes.
From misuse of the marker: breathing vapors may cause drowsiness and dizziness.

Section 5: Fire Fighting Measures

5.1 Extinguishing media:

For small fires use dry chemicals, carbon dioxide, appropriate foam, or inert gas (nitrogen).
For large fires use appropriate foam, water fog, or water spray. Water can be used to cool fire-exposed containers.

5.2 Special hazards arising from the substance:

Markers contain a small volume of paint which is a flammable liquid, category 2. Flashpoint 13°C (55°F).

5.3 Advice for firefighters:

If involved in a fire, combustion may produce toxic and irritating fumes and gases including carbon dioxide, carbon monoxide and/or unburned hydrocarbons.
As for any fire, evacuate the area and fight the fire from a safe distance. Firefighters must wear full protective clothing and positive pressure self-contained breathing apparatus.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

If large volumes of paint are released shut off or extinguish all sources of ignition. Do not breathe vapors. Ventilate the area.

6.2 Environmental precautions:

Prevent the spilled liquid from entering sewers or waterways.

6.3 Methods and material for containment and cleaning up:

Stop the spill if it is safe to do so.
Absorb any spilled liquid using dry earth, sand or non-combustible absorbent material and transfer to appropriate covered and labeled waste containers.

6.4 Additional Information:

See Section 8 for information on selection of personal protective equipment.
See Section 13 for information on disposal of spilled product and contaminated absorbents.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Keep out of reach of children.
Do not use near hot surfaces or flames.

7.2 Conditions for safe storage, including any incompatibilities:

Store below 50°C. Store away from ignition sources, extreme heat and out of direct sunlight. Keep markers closed when not in use.

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters:

Occupational Exposure Limits: Measurable airborne concentrations of the component substances are not expected when the markers are used for their intended purpose. Consult local authorities for acceptable exposure limits.

SAFETY DATA SHEET

Section 8: Exposure Controls/Personal Protection, continued

8.2 Exposure controls:

Engineering Controls: General ventilation is normally adequate.

Personal Protection: Workers must comply with the Personal Protective Equipment requirements of the workplace.

Eye/Face Protection: Not required for normal use. In case of accidental release of large quantities of paint, wear goggles.

Skin Protection: Not required for normal use. In case of accidental release of large quantities of paint, wear gloves.

Respiratory Protection: Not required for normal use.

Other Protection: Avoid breathing vapors. Keep out of reach of children.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:	
Appearance:	Solid marker containing liquid, colored paint.
Odor:	Mild odor of solvent.
Odor threshold:	Not available
pH:	Not available
Melting point/freezing point:	Not available
Initial boiling point and boiling range:	120°C (248°F) for 1-methoxypropan-2-ol
Flash point:	31°C (88°F) setaflash for 1-methoxypropan-2-ol
Flammability	Paint contained in marker is a flammable liquid
Auto-ignition temperature:	287°C (594°F) for 1-methoxypropan-2-ol
Upper/lower flammability or explosive limits:	Not available
Explosive properties:	Not available
Oxidizing properties:	Not available
Sensitivity to mechanical impact:	Not available
Sensitivity to static discharge:	Not available
Vapor pressure:	11.8 for 1-methoxypropan-2-ol
Evaporation rate:	<1
Vapor density:	3.12 for 1-methoxypropan-2-ol
Relative density:	1.0 – 1.33 (water=1)
Solubility (is):	Insoluble in water
Partition coefficient (n-octane/water):	Approximately 0.7
Decomposition temperature:	Not available
Viscosity:	Not available
VOC Content:	50 - 60 % (w/w) for liquid paint

Section 10: Stability and Reactivity

10.1 Reactivity:

Not classified for reactivity hazards.

10.2 Chemical Stability:

Stable at normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of Hazardous Reactions:

None known

10.4 Conditions to Avoid:

Do not use in conditions of heat or near open flames and sparks. Avoid heating above 60°C.

10.5 Incompatible Materials:

Paint is incompatible with strong oxidizing agents, such as chlorine and oxygen.

10.6 Hazardous Decomposition Products:

None known when used for its intended purpose. Combustion may produce irritating and/or toxic gases.

SAFETY DATA SHEET

Section 11: Toxicological Information

11.1 Information on toxicological effects:

Acute Health Effects:

Inhalation: This product does not easily form a vapor; inhalation exposure is unlikely to occur, unless the marker is misused. Exposures to high vapor concentrations may cause drowsiness and dizziness.

Ingestion: Not an expected route of exposure with normal use of the product.

Skin: Repeated contact with the skin may cause irritation.

Eye: Not an expected route of exposure with normal use of the product. Direct contact with the liquid paint may cause eye irritation.

Acute Toxicity Data: Acute toxicity data are not available for the mixture.

Chronic Health Effects:
Data are not available.

Sensitization:
Not applicable

Neurological Effects:
Not applicable with normal use of the marker.

Genetic Effects:
Not applicable

Reproductive Effects:
Not applicable

Developmental Effects:
Not applicable with normal use of the marker.

Target Organ Effects:
Not applicable

Carcinogenicity:
This product does not contain any component that is considered a human carcinogen by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists, OSHA or NTP (National Toxicology Program).

Medical Conditions Aggravated by Exposure:
Repeated skin contact may aggravate an existing dermatitis.

Interactions With Other Chemicals:
Data are not available.

Section 12: Ecological Information

12.1 Toxicity:

Germany Water Hazard Classes: 1-methoxypropan-2-ol ID Number 1597, hazard class 1 - low hazard to waters.
Isopropanol ID Number 135, hazard class 1 - low hazard to waters.

12.2 Persistence and degradability:
Not available

12.3 Bioaccumulative potential:
Not available

12.4 Mobility in soil:
Not available

SAFETY DATA SHEET

Section 13: Disposal Considerations

13.1 Waste treatment methods:

Do NOT discard into any sewers, on the ground or into any body of water. Store material for disposal as indicated in Section 7 Handling and Storage. Dispose of in accordance with local, state/provincial and federal laws and regulations.

The conditions of use, storage and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, LA-CO Industries, Inc. does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

Section 14: Transport Information:

Transport Regulations:

U.S. Hazardous Materials Regulation (DOT 49CFR): This product conforms to 49 CFR 173.4 for domestic highway or rail transport only. Conforms to 49 CFR 173.4a Excepted quantity of Class 3 Flammable liquid.

Canadian Transportation of Dangerous Goods (TDG): Dangerous goods in excepted quantity.

IMO Classification: UN1263 , PAINT, Class 3, PGIII, FP 31°C, LTD QTY, EmS F-E, S-E

ICAO/IATA Classification: Dangerous goods in excepted quantity.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

USA

OSHA: Article, Non-Hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.120 (2012).

SARA Title III

Sec. 302/304:	None
Sec: 311/312:	Flammable
Sec. 313:	Isopropanol
CERCLA RQ:	None

California Prop 65: Not applicable

State Right-to-Know: Ethanol, Isopropanol and 1-methoxypropan-2-ol can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, and Massachusetts.

Canada

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products Regulations*.

WHMIS Classification: Manufactured article, Not controlled

Europe

This article is not classified as hazardous according to CLP Regulation (EC) No 1272/2008.

Section 16: Other Information

Text of H-phrases in Section 3:

H225: Highly flammable liquid and vapour.
H226: Flammable liquid and vapour.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

SAFETY DATA SHEET

Preparation Information:

Revision date: March 4, 2013

References and sources for data:

CCOHS – ChemInfo
European Commission Joint Research Centre IHCP, European Chemical Substances Information System (ESIS).

Legend to abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists
GHS- Globally Harmonised System for Classification and Labeling
IARC – International Agency for Research on Cancer
LD50- Median lethal dose; the dose causing 50 % lethality
LEV- Local exhaust ventilation
OSHA – United States, Occupational Safety and Health Administration
STEL – Short term exposure limit
TWA – Time weighted average
TLV - Threshold Limit Value
NTP – National Toxicology Program
WHMIS – Canada, Workplace Hazardous Materials Information System

Supplier Note: The information contained herein is based on data available to us and is accurate and reliable to the best of our knowledge and belief. However, LA-CO Industries, Inc. makes no representations as to its completeness or accuracy. Information is supplied on condition that persons receiving such information will make their own determination as to its suitability for their purposes prior to use. In no event will LA-CO Industries, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information contained herein.

Prepared by: LEHDER Environmental Services Limited (519) 336-4101
www.lehder.com
While LEHDER Environmental Services Limited believes that the data set forth herein is accurate, as of the date hereof, LEHDER makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification.

Safety Data Sheet

Material Name: Diesel Fuel, All Types

SDS No. 9909
EU/CLP GHS

Synonyms: Ultra Low Sulfur Diesel; Low Sulfur Diesel; No. 2 Diesel; Motor Vehicle Diesel Fuel; Non-Road Diesel Fuel; Locomotive/Marine Diesel Fuel

* * * Section 1 - Product and Company Identification * * *

Manufacturer Information

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS

Emergency # 800-424-9300 CHEMTREC

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 3
Skin Corrosion/Irritation – Category 2
Germ Cell Mutagenicity – Category 2
Carcinogenicity - Category 2
Specific Target Organ Toxicity (Single Exposure) - Category 3 (respiratory irritation, narcosis)
Aspiration Hazard – Category 1
Hazardous to the Aquatic Environment, Acute Hazard – Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

DANGER

Hazard Statements

Flammable liquid and vapor.
Causes skin irritation.
Suspected of causing genetic defects.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Harmful to aquatic life.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep container tightly closed.
Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and forearms thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/mist/vapours/spray.

Response
In case of fire: Use water spray, fog or foam to extinguish.
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
If swallowed: Immediately call a poison center or doctor. Do NOT induce vomiting.
IF exposed or concerned: Get medical advice/attention.

Storage
Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
68476-34-6	Fuels, diesel, no. 2	100
91-20-3	Naphthalene	<0.1

A complex mixture of hydrocarbons with carbon numbers in the range C9 and higher.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

First Aid: Skin
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

First Aid: Ingestion
DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, and other gaseous agents.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Incompatibilities

Keep away from strong oxidizers.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Fuels, diesel, no. 2 (270-676-1)

ACGIH: 100 mg/m3 TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel)
Skin - potential significant contribution to overall exposure by the cutaneous route (listed under Diesel fuel)

Belgium: 100 mg/m3 TWA (as total hydrocarbon, aerosol and vapor)
Skin (listed under Gas oil)

Portugal: 100 mg/m3 TWA [VLE-MP] (aerosol and vapor, as total Hydrocarbons, listed under Fuel diesel)

Naphthalene (202-049-5)

ACGIH: 15 ppm STEL
10 ppm TWA

	Skin - potential significant contribution to overall exposure by the cutaneous route
Austria:	10 ppm TWA [TMW]; 50 mg/m3 TWA [TMW]
	skin notation
Belgium:	15 ppm STEL; 80 mg/m3 STEL
	10 ppm TWA; 53 mg/m3 TWA
	Skin
Denmark:	10 ppm TWA; 50 mg/m3 TWA
Finland:	2 ppm STEL; 10 mg/m3 STEL
	1 ppm TWA; 5 mg/m3 TWA
France:	10 ppm TWA [VME]; 50 mg/m3 TWA [VME]
Germany:	0.1 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when MAK and BAT values are observed, inhalable fraction, exposure factor 1); 0.5 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when MAK and BAT values are observed, inhalable fraction, exposure factor 1)
Greece:	10 ppm TWA; 50 mg/m3 TWA
Ireland:	15 ppm STEL; 75 mg/m3 STEL
	10 ppm TWA; 50 mg/m3 TWA
Netherlands:	80 mg/m3 STEL
	50 mg/m3 TWA
Portugal:	10 ppm TWA [VLE-MP]
Spain:	15 ppm STEL [VLA-EC]; 80 mg/m3 STEL [VLA-EC]
	10 ppm TWA [VLA-ED]; 53 mg/m3 TWA [VLA-ED]
	skin - potential for cutaneous exposure
Sweden:	10 ppm LLV; 50 mg/m3 LLV
	15 ppm STV; 80 mg/m3 STV

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Clear, straw-yellow.	**Odor:**	Mild, petroleum distillate odor
Physical State:	Liquid	**pH:**	ND
Vapor Pressure:	0.009 psia @ 70 °F (21 °C)	**Vapor Density:**	>1.0
Boiling Point:	320 to 690 °F (160 to 366 °C)	**Melting Point:**	ND
Solubility (H2O):	Negligible	**Specific Gravity:**	0.83-0.876 @ 60°F (16°C)
Evaporation Rate:	Slow; varies with conditions	**VOC:**	ND
Percent Volatile:	100%	**Octanol/H2O Coeff.:**	ND
Flash Point:	>125 °F (>52 °C) minimum	**Flash Point Method:**	PMCC
Upper Flammability Limit (UFL):	7.5	**Lower Flammability Limit (LFL):**	0.6
Burning Rate:	ND	**Auto Ignition:**	494°F (257°C)

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

Harmful if swallowed.

B: Component Analysis - LD50/LC50

Naphthalene (91-20-3)

Inhalation LC50 Rat >340 mg/m3 1 h; Oral LD50 Rat 490 mg/kg; Dermal LD50 Rat >2500 mg/kg; Dermal LD50 Rabbit >20 g/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact with eyes may cause mild irritation.

Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This material has been positive in a mutagenicity study.

Carcinogenicity

A: General Product Information

Suspected of causing cancer.

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

B: Component Carcinogenicity

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel fuel)

Naphthalene (91-20-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any specific target organ general toxicity single exposure effects.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ general toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Fuels, diesel, no. 2 (68476-34-6)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	35 mg/L [flow-through]	

Naphthalene (91-20-3)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	5.74-6.44 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	1.6 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	0.91-2.82 mg/L [static]	
96 Hr LC50 Pimephales promelas	1.99 mg/L [static]	
96 Hr LC50 Lepomis macrochirus	31.0265 mg/L [static]	
72 Hr EC50 Skeletonema costatum	0.4 mg/L	
48 Hr LC50 Daphnia magna	2.16 mg/L	
48 Hr EC50 Daphnia magna	1.96 mg/L [Flow through]	
48 Hr EC50 Daphnia magna	1.09 - 3.4 mg/L [Static]	

Persistence/Degradability

No information available.

Bioaccumulation

No information available.

Mobility in Soil

No information available.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

IATA Information

Shipping Name: Diesel Fuel
UN #: 1202 **Hazard Class:** 3 **Packing Group:** III

ICAO Information

Shipping Name: Diesel Fuel
UN #: 1202 **Hazard Class:** 3 **Packing Group:** III

IMDG Information

Shipping Name: Diesel Fuel
UN #: 1202 **Hazard Class:** 3 **Packing Group:** III

* * * Section 15 - Regulatory Information * * *

Regulatory Information

Component Analysis – Inventory

Component/CAS	EC #	EEC	CAN	TSCA
Fuels, diesel, no. 2 68476-34-6	270-676-1	EINECS	DSL	Yes
Naphthalene 91-20-3	202-049-5	EINECS	DSL	Yes

* * * Section 16 - Other Information * * *

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

None

Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Material Name	:	**Diesel (ULSD/Gasoil)**
Recommended Use / Restrictions of Use	:	Fuel for on-road diesel-powered engines. Fuel for use in off-road diesel engines, boilers, gas turbines and other combustion equipment.
Supplier	:	**Shell Eastern Trading (PTE) Ltd** 9 North Buona Vista Drive, #07-01, Tower 1, The Metropolis Singapore 138588 Singapore
Telephone	:	+65-6384 8000
Emergency Telephone Number	:	+44 (0) 151 350 4595

2. HAZARDS IDENTIFICATION

GHS Classification	:	Flammable liquids, Category 3 Aspiration hazard, Category 1 Acute toxicity, Category 4, Inhalation Skin corrosion/irritation, Category 2 Carcinogenicity, Category 2 Specific target organ toxicity - repeated exposure, Category 2, Blood., Thymus., Liver Hazardous to the aquatic environment - Long-term Hazard, Category 2 Acute hazards to the aquatic environment, Category 2
GHS Label Elements **Symbol(s)**	:	
Signal Words	:	Danger
Hazard Statement	:	PHYSICAL HAZARDS: H226: Flammable liquid and vapour. HEALTH HAZARDS:

H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H373: May cause damage to organs or organ systems through prolonged or repeated exposure.

ENVIRONMENTAL HAZARDS:
H411: Toxic to aquatic life with long lasting effects.
H401: Toxic to aquatic life.

GHS Precautionary Statements

Prevention : P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response : P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting.

Disposal: : P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other Hazards which do not result in classification : Vapour in the headspace of tanks and containers may ignite and explode at temperatures exceeding auto-ignition temperature, where vapour concentrations are within the flammability range.
May ignite on surfaces at temperatures above auto-ignition temperature.
This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

Additional Information : This product is intended for use in closed systems only.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture Description : Complex mixture of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons with carbon

numbers predominantly in the C9 to C25 range. May also contain several additives at <0.1% v/v each. May contain cetane improver (Ethyl Hexyl Nitrate) at <0.2% v/v.

May contain catalytically cracked oils in which polycyclic aromatic compounds, mainly 3-ring but some 4- to 6-ring species are present.

Classification of components according to GHS

Chemical Identity	Synonyms	CAS	Hazard Class (category)	Hazard Statement	Conc.
Fuels, diesel	Fuels, diesel	68334-30-5	Flam. Liq., 3; Asp. Tox., 1; Acute Tox., 4; Skin Corr., 2; Carc., 2; STOT RE, 2; Aquatic Chronic, 2; Aquatic Acute, 2;	H226; H304; H332; H315; H351; H373; H411; H401;	60.00 - 100.00 %
Distillates (Fischer-Tropsch) C8-26 - Branched and Linear	Distillates (Fischer-Tropsch) C8-26 - Branched and Linear	848301-67-7	Asp. Tox., 1; Flam. Liq., 4;	H304; H227;	0.00 - 30.00 %
Kerosine (Fischer Tropsch), Full range, C8-C16 branched and linear alkanes	Kerosine (Fischer Tropsch), Full range, C8-C16 branched and linear alkanes	848301-66-6	Asp. Tox., 1; Flam. Liq., 3;	H304; H226;	0.00 - 10.00 %

Additional Information : Dyes and markers can be used to indicate tax status and prevent fraud. Contains Cumene, CAS# 98-82-8 Contains Naphthalene, CAS # 91-20-3.

Refer to Ch 16 for full text of H phrases.

4. FIRST-AID MEASURES

Inhalation : Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin Contact : Remove contaminated clothing. Immediately flush skin with

		large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.
Eye Contact	:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion	:	If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. Give nothing by mouth.
Most Important Symptoms/Effects, Acute & Delayed	:	If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.
Immediate medical attention, special treatment	:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific hazards arising from Chemicals	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Oxides of sulphur. Unidentified organic and inorganic compounds. Carbon monoxide may be evolved if incomplete combustion occurs. Will float and can be reignited on surface water. Flammable vapours may be present even at temperatures below the flash point. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

Protective Equipment & Precautions for Fire Fighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
Additional Advice	:	Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate immediately. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal. Observe the relevant local and international regulations. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. Take precautionary measures against static discharges.

Personal Precautions, Protective Equipment and Emergency Procedures	:	Do not breathe fumes, vapour. Do not operate electrical equipment. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter.
Environmental Precautions	:	Take measures to minimise the effects on groundwater. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Methods and Material for Containment and Cleaning Up	:	Take precautionary measures against static discharges. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate

absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. Shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.

Additional Advice : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26.

7. HANDLING AND STORAGE

General Precautions : Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Prevent spillages. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Never siphon by mouth. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse.
Maintenance and Fuelling Activities - Avoid inhalation of vapours and contact with skin.

Precautions for Safe Handling : Avoid inhaling vapour and/or mists. Avoid prolonged or repeated contact with skin. When using do not eat or drink. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Earth all equipment. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Conditions for Safe Storage : Drum and small container storage: Drums should be stacked to a maximum of 3 high. Use properly labelled and closeable containers. Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Vapours from tanks should not be released to

		atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Keep container tightly closed and in a cool, well-ventilated place. Keep in a cool place. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product. Keep in a bunded area with a sealed (low permeability) floor, to provide containment against spillage. Prevent ingress of water.
Product Transfer	:	Avoid splash filling. Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Keep containers closed when not in use. Contamination resulting from product transfer may give rise to light hydrocarbon vapour in the headspace of tanks that have previously contained gasoline. This vapour may explode if there is a source of ignition. Partly filled containers present a greater hazard than those that are full, therefore handling, transfer and sampling activities need special care. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/s until fill pipe submerged to twice its diameter, then <= 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.
Recommended Materials	:	For containers, or container linings use mild steel, stainless steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. Examples of suitable materials are: high density polyethylene (HDPE) and Viton (FKM), which have been specifically tested for compatibility with this product. For container linings, use

		amine-adduct cured epoxy paint. For seals and gaskets use: graphite, PTFE, Viton A, Viton B.
Unsuitable Materials	:	Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene. However, some may be suitable for glove materials.
Container Advice	:	Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.
Other Advice	:	Ensure that all local regulations regarding handling and storage facilities are followed. See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity). CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Naphthalene	ACGIH	TWA	10 ppm		
	ACGIH	STEL	15 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin.
	SG OEL	TWA	10 ppm	52 mg/m3	
	SG OEL	STEL	15 ppm	79 mg/m3	

Fuels, diesel	ACGIH	SKIN_DES(Inhalable fraction and vapor.)			Can be absorbed through the skin.as total hydrocarbons
	ACGIH	TWA(Inhalable fraction and vapor.)		100 mg/m3	as total hydrocarbons
Cumene	ACGIH	TWA	50 ppm		
	SG OEL	TWA	50 ppm	246 mg/m3	

Additional Information : Skin notation means that significant exposure can also occur by absorption of liquid through the skin and of vapour through the eyes or mucous membranes.

Biological Exposure Index (BEI)

Material	Determinant	Sampling Time	BEI	Reference
Naphthalene	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis	Sampling time: End of shift.		ACGIH BEL (02 2013)

Appropriate Engineering Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls.

		Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Firewater monitors and deluge systems are recommended. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.
Individual Protection Measures	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Respiratory Protection	:	If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. All respiratory protection equipment and use must be in accordance with local regulations. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].
Hand Protection	:	Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. (Breakthrough

		time of > 240 minutes.) For incidental contact/splash protection Neoprene, PVC gloves may be suitable.
Eye Protection	:	Chemical splash goggles (chemical monogoggles). If a local risk assessment deems it so, then chemical splash goggles may not be required and safety glasses may provide adequate eye protection.
Protective Clothing	:	Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).
Thermal Hazards	:	Not applicable.
Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/ Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Environmental Exposure Controls	:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Information on accidental release measures are to be found in section 6. Take appropriate measures to fulfil the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Colourless to yellowish. Liquid.
Odour	:	May contain a reodorant
Odour threshold	:	Data not available
pH	:	Not applicable
Initial Boiling Point and Boiling Range	:	170 - 390 °C / 338 - 734 °F
Pour point	:	<= 6 °C / 43 °F
Flash point	:	> 55 °C / 131 °F
Upper / lower Flammability or	:	1 - 6 %(V)

Explosion limits		
Auto-ignition temperature	:	> 220 °C / 428 °F
Vapour pressure	:	1 hPa at 20 °C / 68 °F
Relative Density	:	Data not available
Density	:	0.8 - 0.89 g/cm3 at 15 °C / 59 °F
Water solubility	:	Data not available
Solubility in other solvents	:	Data not available
n-octanol/water partition coefficient (log Pow)	:	3 - 6
Dynamic viscosity	:	Data not available
Kinematic viscosity	:	1.5 - 6 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	Data not available
Electrical conductivity	:	Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.
Evaporation rate (nBuAc=1)	:	Data not available
Decomposition Temperature	:	Data not available
Flammability	:	Not applicable.

10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal use conditions.
Possibility of Hazardous Reactions	:	No hazardous reaction is expected when handled and stored according to provisions.
Conditions to Avoid	:	Avoid heat, sparks, open flames and other ignition sources.
Incompatible Materials	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Sensitivity to Static Discharge	:	Yes, in certain circumstances product can ignite due to static electricity.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological effects

Basis for Assessment	:	Information given is based on product data, a knowledge of the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Likely Routes of Exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.
Acute Oral Toxicity	:	Low toxicity: LD50 > 5000 mg/kg , Rat
Acute Dermal Toxicity	:	Low toxicity: LD50 >2000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Harmful if inhaled. LC50 > 1.0 - <= 5.0 mg/l , 4 h, Rat High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.
Skin corrosion/irritation	:	Irritating to skin.
Serious eye damage/irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Respiratory or skin sensitisation	:	Not expected to be a sensitiser.
Aspiration Hazard	:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Germ cell mutagenicity	:	Positive in in-vitro, but negative in in-vivo mutagenicity assays.
Carcinogenicity	:	Limited evidence of carcinogenic effect. Repeated skin contact has resulted in irritation and skin cancer in animals.

Material	:	**Carcinogenicity Classification**
Naphthalene	:	ACGIH Group A4: Not classifiable as a human carcinogen.
Naphthalene	:	NTP: Reasonably Anticipated to be a Human Carcinogen.
Naphthalene	:	IARC 2B: Possibly carcinogenic to humans.
Naphthalene	:	GHS / CLP: Carcinogenicity Category 2

Fuels, diesel	:	ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans.
Fuels, diesel	:	GHS / CLP: Carcinogenicity Category 2
Distillates (Fischer-Tropsch) C8-26 - Branched and Linear	:	GHS / CLP: No carcinogenicity classification
Kerosine (Fischer Tropsch), Full range, C8-C16 branched and linear alkanes	:	GHS / CLP: No carcinogenicity classification
Cumene	:	IARC 2B: Possibly carcinogenic to humans.
Cumene	:	GHS / CLP: No carcinogenicity classification

Reproductive and Developmental Toxicity : Not expected to impair fertility. Not expected to be a developmental toxicant.

Specific target organ toxicity - single exposure : Not classified.

Specific target organ toxicity - repeated exposure : May cause damage to organs or organ systems through prolonged or repeated exposure. Blood. Thymus. Liver.

Additional Information : Classifications by other authorities under varying regulatory frameworks may exist.

12. ECOLOGICAL INFORMATION

Basis for Assessment : Information given is based on a knowledge of the components and the ecotoxicology of similar products. Fuels are typically made from blending several refinery streams. Ecotoxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Acute Toxicity : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.

Fish : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l

Aquatic crustacea : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l

Algae/aquatic plants : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l

Microorganisms : Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l

Chronic Toxicity

Fish : NOEC/NOEL expected to be > 0.01 - <= 0.1 mg/l (based on

		modeled data)
Aquatic crustacea	:	NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l (based on modeled data)
Mobility	:	Partly evaporates from water or soil surfaces, but a significant proportion will remain after one day. If product enters soil, one or more constituents will be mobile and may contaminate groundwater. Large volumes may penetrate soil and could contaminate groundwater. Floats on water.
Persistence/degradability	:	Major constituents are inherently biodegradable. The volatile constituents will oxidize rapidly by photochemical reactions in air.
Bioaccumulative Potential	:	Contains constituents with the potential to bioaccumulate. Log Kow > =4
Other Adverse Effects	:	Films formed on water may affect oxygen transfer and damage organisms.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.
Container Disposal	:	Send to drum recoverer or metal reclaimer. Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard if heated above the flash point. Do not puncture, cut or weld uncleaned drums. Do not pollute the soil, water or environment with the waste container. Comply with any local recovery or waste disposal regulations.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be in compliance.

14. TRANSPORT INFORMATION

Land (as per ADR classification): Regulated

Class	:	3
Packing group	:	III
Hazard indentification no.	:	30
UN number	:	1202
Danger label (primary risk)	:	3
Proper shipping name	:	DIESEL FUEL
Environmentally Hazardous	:	Yes

IMDG

Identification number	UN 1202
Proper shipping name	DIESEL FUEL
Class / Division	3
Packing group	III
Environmental hazards:	Yes

IATA (Country variations may apply)

UN number	:	1202
Proper shipping name	:	Diesel fuel
Class / Division	:	3
Packing group	:	III

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution Category	**:**	Not applicable.
Ship Type	**:**	Not applicable.
Product Name	**:**	Not applicable.
Special Precaution	**:**	Not applicable.
Additional Information	**:**	MARPOL Annex 1 rules apply for bulk shipments by sea.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Local Regulations

Workplace Safety and Health Act & Workplace Safety and Health (General Provision) Regulations	:	This product is subject to the requirement in the Act/ Regulations.
Environmental Protection and Management Act and Environmental Protection and Management	:	This product is subject to the requirement in the Act/ Regulations.

(Hazardous Substances) Regulations		
Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives) Regulations	:	This product is subject to the requirement in the Act/ Regulations.
Fire Safety Act and Fire Safety (Petroleum & Flammable Materials) Regulations	:	This product is subject to the requirement in the Act/ Regulations.
Classification triggering components	:	Contains fuels, diesel.
Other Information	:	IARC has classified diesel exhaust emissions as a Class 1 carcinogen - carcinogenic to humans. Steps should be taken to prevent personal exposure to diesel exhaust emissions.

16. OTHER INFORMATION

Hazard Statement

H226	Flammable liquid and vapour.
H227	Combustible liquid.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H351	Suspected of causing cancer.
H373	May cause damage to organs or organ systems through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Additional Information	:	This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.
SDS Version Number	:	1.1
SDS Effective Date	:	10.03.2014
SDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
Uses and Restrictions	:	This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier. This product is not to be used as a solvent or cleaning agent;

for lighting or brightening fires; as a skin cleanser.

SDS Distribution	:	The information in this document should be made available to all who may handle the product.
Key/Legend to Abbrevations used in this SDS	:	The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

Flam. Liq.	Flammable liquids
Asp. Tox.	Aspiration hazard
Acute Tox.	Acute toxicity
Skin Corr.	Skin corrosion/irritation
Carc.	Carcinogenicity
STOT RE	Specific target organ toxicity - repeated exposure

Key Literature References	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).
Disclaimer	:	This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SAFETY DATA SHEET

1. Identification

Product identifier **Compressor Oil**

Other means of identification

Product code SL22133

Recommended use Compressor oil

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name CRC Industries, Inc.

Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency (CHEMTREC) 800-424-9300 (US)
703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use. Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
distillates (petroleum), solvent-refined heavy naphthenic		64741-96-4	60 - 70
distillates (petroleum), hydrotreated light naphthenic		64742-53-6	20 - 30
distillates (petroleum), solvent-dewaxed heavy paraffinic		64742-65-0	1 - 3
kerosene		8008-20-6	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	Wash off with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
Eye contact	Rinse immediately with plenty of water, also under the eyelids. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if symptoms occur. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	Cool containers exposed to heat with water spray and remove container, if no risk is involved.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	The product is immiscible with water and will spread on the water surface. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Wear appropriate personal protective equipment. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. When using, do not eat, drink or smoke. Wash contaminated clothing before reuse. Use appropriate container to avoid environmental contamination. For product usage instructions, please see the product label.
Conditions for safe storage, including any incompatibilities	Keep away from heat and sources of ignition. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	
distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	PEL	5 mg/m3	Mist.
		2000 mg/m3	
		500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	TWA	5 mg/m3	Inhalable fraction.
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	TWA	5 mg/m3	Inhalable fraction.
distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	TWA	5 mg/m3	Inhalable fraction.
kerosene (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
kerosene (CAS 8008-20-6)	TWA	100 mg/m3	

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

kerosene (CAS 8008-20-6) Can be absorbed through the skin.

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves such as: Nitrile. Polyvinyl chloride (PVC).
Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Amber.
Odor	Mild petroleum.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	347 °F (175 °C) estimated
Flash point	350 °F (176.7 °C) Pensky-Martens Closed Cup
Evaporation rate	Very slow.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.7 % estimated
Flammability limit - upper (%)	5 % estimated
Vapor pressure	0.6 hPa estimated
Vapor density	> 5 (air = 1)
Relative density	0.9 - 0.92
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	410 °F (210 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	107 mm²/s (104 °F (40 °C))
Percent volatile	70.3 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.

Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged or excessive inhalation may cause respiratory tract irritation.
Skin contact	Prolonged skin contact may cause temporary irritation. Repeated exposure may cause skin dryness or cracking.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Inhalation		
LC50	Rat	2180 mg/m³, 4 hours
Oral		
LD50	Rat	> 5000 mg/kg
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
kerosene (CAS 8008-20-6)		
Acute		
Oral		
LD50	Rat	15 g/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	3 Not classifiable as to carcinogenicity to humans.
phenol (CAS 108-95-2)	3 Not classifiable as to carcinogenicity to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Prolonged inhalation may be harmful.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products	This product is not a RCRA hazardous waste (See 40 CFR Part 261.20 – 261.33). Empty containers may be recycled. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.
Hazardous waste code	Not regulated.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

phenol (CAS 108-95-2)

zinc alkyldithiophosphate (CAS 84605-29-8)

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)
distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)
kerosene (CAS 8008-20-6)

US. New Jersey Worker and Community Right-to-Know Act

kerosene (CAS 8008-20-6)
phenol (CAS 108-95-2)
zinc alkyldithiophosphate (CAS 84605-29-8)

US. Massachusetts RTK - Substance List

distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)
distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)
kerosene (CAS 8008-20-6)

US. Pennsylvania Worker and Community Right-to-Know Law

kerosene (CAS 8008-20-6)
phenol (CAS 108-95-2)
zinc alkyldithiophosphate (CAS 84605-29-8)

US. Rhode Island RTK

distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)
distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)
distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)
kerosene (CAS 8008-20-6)
phenol (CAS 108-95-2)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

benzene (CAS 71-43-2) Listed: February 27, 1987

US - California Proposition 65 - CRT: Listed date/Developmental toxin

benzene (CAS 71-43-2) Listed: December 26, 1997

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

benzene (CAS 71-43-2) Listed: December 26, 1997

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	Not determined

Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	01-06-2017
Revision date	01-06-2017
Prepared by	Allison Cho
Version #	03
Further information	Not available.
HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 1 Flammability: 1 Instability: 0
NFPA ratings	
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC's knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries, Inc..
Revision Information	Physical & Chemical Properties: Multiple Properties

SAFETY DATA SHEET

Propane

Airgas
an Air Liquide company

Section 1. Identification

GHS product identifier : Propane

Chemical name : propane

Other means of identification : Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.

Product type : Liquefied gas

Product use : Synthetic/Analytical chemistry.

Synonym : Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.

SDS # : 001045

Supplier's details : Airgas USA, LLC and its affiliates
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

24-hour telephone : 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE GASES - Category 1
GASES UNDER PRESSURE - Liquefied gas

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May cause frostbite.
May displace oxygen and cause rapid suffocation.
May form explosive mixtures with air.

Precautionary statements

General : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Always keep container in upright position. Approach suspected leak area with caution.

Prevention : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources.

Section 2. Hazards identification

Disposal : Not applicable.

Hazards not otherwise classified : Liquid can cause burns similar to frostbite.

Section 3. Composition/information on ingredients

Substance/mixture : Substance

Chemical name : propane

Other means of identification : Propyl hydride; n-Propane; Dimethyl methane; Bottled gas; propane in gaseous state; propane liquefied, n-Propane; Dimethylmethane; Freon 290; Liquefied petroleum gas; Lpg; Propyl hydride; R 290; C3H8; UN 1075; UN 1978; A-108; Hydrocarbon propellant.

Product code : 001045

CAS number/other identifiers

CAS number : 74-98-6

Ingredient name	%	CAS number
Propane	100	74-98-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Liquid can cause burns similar to frostbite.

Inhalation : No known significant effects or critical hazards.

Section 4. First aid measures

Frostbite : Try to warm up the frozen tissues and seek medical attention.

Ingestion : Ingestion of liquid can cause burns similar to frostbite.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:, frostbite

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:, frostbite

Ingestion : Adverse symptoms may include the following:, frostbite

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment

Section 6. Accidental release measures

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Propane	**NIOSH REL (United States, 10/2016).** TWA: 1800 mg/m³ 10 hours. TWA: 1000 ppm 10 hours. **OSHA PEL (United States, 5/2018).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 1800 mg/m³ 8 hours. TWA: 1000 ppm 8 hours.

Section 8. Exposure controls/personal protection

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Thermal hazards : If there is a risk of contact with the liquid, all protective equipment worn should be suitable for use with extremely low temperature materials.

Section 9. Physical and chemical properties

Appearance

Physical state : Gas.

Color : Colorless.

Odor : Odorless.BUT MAY HAVE SKUNK ODOR ADDED.

Odor threshold : Not available.

pH : Not available.

Melting point : -187.6°C (-305.7°F)

Section 9. Physical and chemical properties

itical temperature	:	96.55°C (205.8°F)
Flash point	:	Closed cup: -104°C (-155.2°F) Open cup: -104°C (-155.2°F)
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.
Lower and upper explosive (flammable) limits	:	Lower: 1.8% Upper: 8.4%
Vapor pressure	:	109 (psig)
Vapor density	:	1.6 (Air = 1)
Specific Volume (ft ^{3}/lb)	:	8.6206
Gas Density (lb/ft ^{3})	:	0.116 (25°C / 77 to °F)
Relative density	:	Not applicable.
Solubility	:	Not available.
Solubility in water	:	0.0244 g/l
Partition coefficient: n-octanol/water	:	1.09
Auto-ignition temperature	:	287°C (548.6°F)
Decomposition temperature	:	Not available.
Viscosity	:	Not applicable.
Flow time (ISO 2431)	:	Not available.
Molecular weight	:	44.11 g/mole

erosol product

Heat of combustion	:	-46012932 J/kg

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow gas to accumulate in low or confined areas.
Incompatible materials	:	Oxidizers
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
azardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

formation on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Liquid can cause burns similar to frostbite.

Inhalation : No known significant effects or critical hazards.

Skin contact : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.

Ingestion : Ingestion of liquid can cause burns similar to frostbite.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:, frostbite

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:, frostbite

Ingestion : Adverse symptoms may include the following:, frostbite

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential chronic health effects

Not available.

General	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

ot available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Propane	1.09	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty Airgas-owned pressure vessels should be returned to Airgas. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1978	UN1978	UN1978	UN1978	UN1978
UN proper shipping name	PROPANE SEE ALSO PETROLEUM GASES, LIQUEFIED	PROPANE	PROPANE SEE ALSO PETROLEUM GASES, LIQUEFIED (propane)	PROPANE	PROPANE
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

DOT Classification : **Limited quantity**
Yes.

Packaging instruction
Passenger aircraft
Quantity limitation: Forbidden.

Cargo aircraft
Quantity limitation: 150 kg

Special provisions
19, T50

For domestic transportation only, UN1075 may be substituted for the UN number shown as long as the substitution is consistent on package markings, shipping papers, and emergency response information. See 49 CFR 172.102 Special Provision 19.
Containers of NON-ODORIZED liquefied petroleum gas must be marked either NON-ODORIZED or NOT ODORIZED as of September 30, 2006. [49 CFR 172.301(f), 326(d), 330(c) and 338(e)]

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index 0.125
ERAP Index 3000
Passenger Carrying Vessel Index 65
Passenger Carrying Road or Rail Index Forbidden
Special provisions 29, 42

IATA : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: 150 kg.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 14. Transport information

ansport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

Clean Air Act (CAA) 112 regulated flammable substances: propane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : This material is listed or exempted.

Canada : This material is listed or exempted.

China : This material is listed or exempted.

Section 15. Regulatory information

Japan	:	**Japan inventory (ENCS)**: This material is listed or exempted. **Japan inventory (ISHL)**: This material is listed or exempted.
New Zealand	:	This material is listed or exempted.
Philippines	:	This material is listed or exempted.
Republic of Korea	:	This material is listed or exempted.
Taiwan	:	This material is listed or exempted.
Thailand	:	Not determined.
Turkey	:	This material is listed or exempted.
United States	:	This material is active or exempted.
Viet Nam	:	This material is listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Liquefied gas	Expert judgment Expert judgment

story

Date of printing	:	11/15/2020
Date of issue/Date of revision	:	11/15/2020
Date of previous issue	:	10/5/2020
Version	:	1.02

Section 16. Other information

y to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Other special considerations : The information below is given to call attention to the issue of "Naturally occurring radioactive materials". Although Radon-222 levels in the product represented by this MSDS do not present any direct Radon exposure hazard, customers should be aware of the potential for Radon daughter build up within their processing systems, whatever the source of their product streams. Radon-222 is a naturally occurring radioactive gas which can be a contaminant in natural gas. During subsequent processing , Radon tends to be concentrated in Liquefied Petroleum Gas streams and in product streams having a similar boiling point range. Industry experience has shown that this product may contain small amounts of Radon-222 and its radioactive decay products, called Radon "daughters". The actual concentration of Radon-222 and radioactive daughters in the delivered product is dependent on the geographical source of the natural gas and storage time prior to delivery. Process equipment (i.e. lines, filters, pumps and reaction units) may accumulate significant levels of radioactive daughters and show a gamma radiation reading during operation. A potential external radiation hazard exists at or near any pipe valve or vessel containing a Radon enriched stream, or containing internal deposits of radioactive material due to the transmission of gamma radiation through its wall. Field studies reported in the literature have not shown any conditions that subject workers to cumulative exposures in excess of general population limits. Equipment emitting gamma radiation should be presumed to be internally contaminated with alpha emitting decay products which may be a hazard if inhaled or ingested. Protective equipment such as coveralls, gloves, and respirator (NIOSH/MHSA approved for high efficiency particulates and radionuclides, or supplied air) should be worn by personnel entering a vessel or working on contaminated process equipment to prevent skin contamination, ingestion, or inhalation of any residues containing alpha radiation. Airborne contamination may be minimized by handling scale and/or contaminated materials in a wet state.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SAFETY DATA SHEET

1. Identification

Product identifier	**CRYO-TEK FIRE SYSTEM PG 38 Fire System Antifreeze**
Other means of identification	None.
Recommended use	Antifreeze for fire systems
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Company name	HCC Holdings, Inc. an Oatey Affiliate
Address	4700 West 160th Street Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Contact person	MSDS Coordinator
Importer/Distributor	Oatey Canada Supply Chain Services
Address	145 Brampton Drive Brampton, ON L6T5P5 Canada
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015

2. Hazard identification

Physical hazards	Not classified.
Health hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Other hazards	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Dry powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed such as: Carbon oxides (COx).
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Not normally needed. If contact is likely, safety glasses with side shields are recommended.
Skin protection	
Hand protection	Not normally needed. For prolonged or repeated skin contact use suitable protective gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.

Form	Transparent liquid.
Colour	Red.
Odour	Odourless.
Odour threshold	Not available.
pH	8 - 9.5
Melting point/freezing point	Not available.
Initial boiling point and boiling range	100 °C (212 °F)
Flash point	> 100.0 °C (> 212.0 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	1.05 (Water=1)
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	4 cps
Other information	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
VOC	395 g/l 38 % by weight

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidising agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitisation	
Respiratory sensitisation	Not a respiratory sensitiser.
Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available for this product.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

Canadian regulations	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 19-August-2019

Revision date -

Version No. 01

Disclaimer HCC Holdings Inc. an Oatey Affiliate cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

TYCO CPVC
TFP-600 One Step Solvent Cement
SDS (Safety Data Sheet)

SAFETY DATA SHEET

1. Identification

Product identifier	**TFP-600 Blazemaster CPVC Cement**
Other means of identification	None.
Recommended use	Joining CPVC Pipes
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company Name	Oatey Co.
Address	4700 West 160th St. Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency first aid	1-877-740-5015
Contact person	MSDS Coordinator
Supplier	
Company name	Tyco Fire Protection Products
Address	1400 Pennbrook Parkway Lansdale, PA 19446
Telephone	215-362-0700
E-mail	PSRA@tycofp.com
Transport emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency first aid	1-877-740-5015
Contact person	Product Stewardship

IMPORTANT
Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

Section 1 excerpted from: Oatey 935557 SDS US

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Immediately call a poison center/doctor. Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	30-60
Methyl ethyl ketone	78-93-3	10-30
Ethene, chloro-, homopolymer, chlorinated	68648-82-8	10-20
Acetone	67-64-1	5-15
Cyclohexanone	108-94-1	5-15
Silica, amorphous, fumed	112945-52-5	1-5

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain. Irritation of nose and throat.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO_2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3
		1000 ppm
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3
		50 ppm
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3
		200 ppm

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	0.8 mg/m3
		20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	500 ppm
	TWA	250 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm
	TWA	50 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
	TWA	590 mg/m3
		200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	6 mg/m3

Sections 7 and 8 excerpted from: Oatey 935557 SDS US

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Translucent liquid.
Color	Red.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	151 °F (66.11 °C)
Flash point	14.0 - 23.0 °F (-10.0 - -5.0 °C)
Evaporation rate	5.5 - 8
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.8
Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.94 +/- 0.02
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	1500 - 3500 cP
Other information	
Bulk density	8.1 lb/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC	470 g/l SQACMD Method 304

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	> 20 ml/kg
Inhalation		
LC50	Rat	50 mg/l, 8 Hours
Oral		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
Dermal		
LD50	Rabbit	948 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 4 hours
Oral		
LD50	Rat	800 mg/kg

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1)	3 Not classifiable as to carcinogenicity to humans.
Silica, amorphous, fumed (CAS 112945-52-5)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Section 11 excerpted from: Oatey 935557 SDS US

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	481 - 578 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Methyl ethyl ketone RQ = 43706 LBS, Acetone RQ = 58005 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Methyl ethyl ketone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)
Silica, amorphous, fumed (CAS 112945-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)
Silica, amorphous, fumed (CAS 112945-52-5)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 26-October-2016

Revision date -

Version # 01

HMIS® ratings
Health: 2
Flammability: 3
Physical hazard: 0

NFPA ratings

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Sections 15 and 16 excerpted from: Oatey 935557 SDS US

1400 Pennbrook Parkway, Lansdale, PA 19446 | Telephone +1-215-362-0700

walker industries

Norjohn-ACI Inc.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME:	PROPYLENE GLYCOL 38% BY VOLUME
MSDS NUMBER:	**PT1114.76**
DATE ISSUED:	03/28/2011
REVISION DATE:	11/06/12

==========

1. Product and Company Identification

Product Name
PROPYLENE GLYCOL 38% BY VOLUME

Distributed by:
Norjohn-ACI Inc.
4401 SE Johnson Creek Blvd.
Portland OR 97222
Phone: 503-659-1708
Fax: 50-653-0409

2. Hazards Identification

Emergency Overview Color:	Colorless
Physical State:	Liquid
Odor:	Odorless

Hazards of product:
No significant immediate hazards for emergency response are known.

OSHA Hazard Communication Standard
This product is not a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact:	May cause slight temporary eye irritation. Corneal injury is unlikely. Mist may cause eye irritation.
Skin Contact:	Prolonged contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of skin.
Skin Absorption:	Prolonged skin contact is unlikely to result in absorption of harmful amounts.
Inhalation:	At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).
Ingestion:	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Effects of Repeated Exposure: In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

3. Composition Information

Component	CAS #	Amount
Propylene Glycol USP	57-55-6	38% BY VOLUME

4. First-aid measures

Eye Contact:	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Skin Contact:	Wash skin with plenty of water.
Inhalation:	Move person to fresh air; if effects occur, consult a physician.
Ingestion:	No emergency medical treatment necessary.
Notes to Physician:	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire Fighting Measures

Extinguishing Media:
Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Small spills: Any absorbent material. Collect in suitable and properly labeled open containers. Wash the spill site with large quantities of water. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

Personal Precautions: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling
General Handling: Product handled hot may require additional ventilation or local exhaust. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Storage

Store away from direct sunlight or ultraviolet light. Keep container tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture. Store in the following material(s): Stainless steel. Aluminum. Plasite 3066 lined container. 316 stainless steel. Opaque HDPE plastic container.

Shelf life:	Use within	Maximum storage temperature
	24.0 Months	40 deg C

8. Exposure Controls I Personal Protection

Exposure Limits

Component	List	Type	Value
Propylene glycol	WEEL	TWA	10 mg/m3 Aerosol.

Personal Protection

Eye/Face Protection: Safety glasses should be sufficient for most operations; however, for misty operations wear chemical goggles.

Skin Protection: No precautions other than clean body-covering clothing should be needed. Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. In misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor with acid gas cartridge and particulate pre-filter. Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls
Ventilation: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

9. Physical and Chemical Properties

Physical State	Liquid
Color	Colorless
Odor	Odorless
Flash Point - Closed Cup	103 deg C (217 deg F) Literature (PMCC)
Flammable Limits In Air	Lower: 2.6 %(V) Estimated
	Upper: 12.5 %(V) Estimated
Autoignition Temperature	371 deg C (700 deg F) Literature
Vapor Pressure	0.3 mbar @ 25 deg C Literature
Boiling Point (760 mmHg)	187.4 deg C (369.3 deg F) Literature .
Vapor Density (air = 1)	2.62 Literature
Specific Gravity (H20 = 1)	1.04 20 deg C/20 deg C Literature
Freezing Point	No test data available
Melting Point	No test data available
Solubility in Water	(by 100 % weight)
pH	Not applicable
Evaporation Rate	(Butyl 0.01 Estimated Acetate = 1)
Dynamic Viscosity	48.6 mPs @ 25 deg C Literature
Pour point	< -57 deg C (< -71 deg F) Literature

10. Stability and Reactivity

Stability/Instability
Stable under recommended storage conditions. See Storage, Section 7.
Hygroscopic.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

Incompatible Materials: Avoid contact with: Strong acids. Strong bases.
Strong oxidizers.

Hazardous Polymerization
Will not occur.

Thermal Decomposition
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Organic acids.

11. Toxicological Information

Acute Toxicity
Ingestion
LD50, Rat 20,000 - 34,000 mg/kg

Skin Absorption
LD50, Rabbit > 20,000 mg/kg

Repeated Dose Toxicity
In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Chronic Toxicity and Carcinogenicity
Did not cause cancer in laboratory animals.

Developmental Toxicity
Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive Toxicity
In animal studies, did not interfere with reproduction.

Genetic Toxicology
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. Ecological Information

CHEMICAL FATE Data for Component: Propylene glycol
Movement & Partitioning
Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Henrys Law Constant (H): 1.2E-8 atm*m3/mole Measured
Partition coefficient, n-octanol/water (log Pow): -0.92 Measured
Partition coefficient, soil organic carbon/water (Koc): < 1 Estimated

Persistence and Degradability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).
Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.28E-11 cm3/s	10 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
81 %	28 d	OECD 301F Test
95.8 `)/0	64 d	OECD 306 Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
69%	70%	86%	

Chemical Oxygen Demand: 1.53 mg/mg
Theoretical Oxygen Demand: 1.68 mg/mg

ECOTOXICITY
Data for Component: Propylene glycol
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, rainbow trout (Oncorhynchus mykiss), 96 h: 44,000 - 51,600 mg/L Aquatic Invertebrate Acute Toxicity
EC50, water flea Daphnia magna, 48 h, immobilization: 4,850 - 34,000 mg/L
LC50, saltwater mysid Mysidopsis bahia, static, 96 h: 18,800 mg/L Aquatic Plant Toxicity
EC50, green alga Selenastrum capricornutum, biomass growth inhibition: 19,000 mg/L
Toxicity to Micro-organisms
EC50, OECD 209 Test; activated sludge, respiration inhibition, 3 h: > 1,000 mg/L

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. VENDOR HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device.

14. Transport Information

DOT Non-Bulk
NOT REGULATED
DOT Bulk
NOT REGULATED
IMDG
NOT REGULATED
ICAO/IATA
NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. Regulatory Information

OSHA Hazard Communication Standard
This product is not a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard	No
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount

Propylene glycol USP	57-55-6	> 99.8 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

CEPA - Domestic Substances List (DSL)
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

European Inventory of Existing Commercial Chemical Substances (EINECS)
The components of this product are on the EINECS inventory or are exempt from inventory requirements.

16. Other Information

Hazard Rating System

NFPA	Health	Fire	Reactivity
	0	1	0

Recommended Uses and Restrictions
Vendor recommends that you use this product in a manner consistent with the listed use.
Humectant and solvent for:
Foodstuffs. Flavors. Fragrances. Cosmetics. Pharmaceuticals. Personal care applications. Not for use in cat food.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation

NOTICE
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All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, Associated Chemists Inc. makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Associated Chemists Inc. control. Therefore, users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes, and they assume all risks of their use, handling, and disposal of the product or from the publication or use of, or reliance upon, information

contained herein. This information relates only to the product designated herein and does not relate to its use in combination with any other material or in any other process.

END OF MSDS

SAFETY DATA SHEET

Section 1: Product and Company Identification

Product Name: Ball Paint Marker®

Product Code: White – 84620, Yellow – 84621, Red – 84622, Black – 84623, Orange – 84624, Blue – 84625, Green – 84626

Product Use: Liquid paint marker for hard surfaces.

Supplier: LA-CO Industries, Inc.
1201 Pratt Boulevard
Elk Grove Village, IL.
60007-5746
E-mail Contact: customer_service@laco.com

Phone Number: (847) 956-7600
Fax: (847) 956-9885
24-hour Emergency: **CHEMTREC: (800) 424-9300**

Section 2: Hazards Identification

2.1 Classification of the substance or mixture according to GHS Classifications (UNECE 3rd Revised Edition):
Not classified as a hazardous chemical.

2.2 Label elements:
No hazard classifications.

2.3 Other hazards:
The paint inside the marker is a flammable liquid. Exposures to liquid and/or vapors from misuse of the product may cause eye irritation and/or drowsiness and dizziness. Exposure to hazardous substances is not expected when handling this product for its intended use.

2.4 Other hazard classifications:
Marker meets the definition of an "article".

USA: This article is not considered a hazardous chemical by the OSHA Hazard Communication Standard 29 CFR 1910.1200 (2012).

Canada: This article is not a controlled product under WHMIS.

European Union (EU): This article is not classified as hazardous according to CLP Regulation (EC) No 1272/2008.

Section 3: Composition / Information on Ingredients

Chemical Name	CAS No.	Wt.%	GHS Classifications according to UNECE 3rd Revised Edition
1-methoxypropan-2-ol	107-98-2	40 - 55	Flam. Liq. 3; H226 STOT SE 3; H336
Ethanol	64-17-5	5 - 10	Flam. Liq. 2; H225
2-methoxy-1-methylethyl acetate	108-65-6	0.1 – 1.3	Flam. Liq. 3; H226
Isopropanol	67-63-0	0.5 – 1.5	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation: If symptoms are experienced, remove source of contamination or have victim move to fresh air. Obtain medical advice.

Eye Contact: No effects expected. If liquid paint contacts the eyes, rinse cautiously for several minutes while holding the eyelids open. Obtain medical attention.

SAFETY DATA SHEET

Section 4: First Aid Measures, continued

Skin Contact: No health effects expected. If irritation does occur, flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, obtain medical advice.

Ingestion: No health effects expected. If swallowed, do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Obtain medical advice or call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and effects, both acute and delayed:

Exposure to hazardous substances is not expected when handling this product for its intended use.
Liquid paint may cause serious eye irritation if in contact with the eyes.
From misuse of the marker: breathing vapors may cause drowsiness and dizziness.

Section 5: Fire Fighting Measures

5.1 Extinguishing media:

For small fires use dry chemicals, carbon dioxide, appropriate foam, or inert gas (nitrogen).
For large fires use appropriate foam, water fog, or water spray. Water can be used to cool fire-exposed containers.

5.2 Special hazards arising from the substance:

Markers contain a small volume of paint which is a flammable liquid, category 2. Flashpoint 13°C (55°F).

5.3 Advice for firefighters:

If involved in a fire, combustion may produce toxic and irritating fumes and gases including carbon dioxide, carbon monoxide and/or unburned hydrocarbons.
As for any fire, evacuate the area and fight the fire from a safe distance. Firefighters must wear full protective clothing and positive pressure self-contained breathing apparatus.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

If large volumes of paint are released shut off or extinguish all sources of ignition. Do not breathe vapors. Ventilate the area.

6.2 Environmental precautions:

Prevent the spilled liquid from entering sewers or waterways.

6.3 Methods and material for containment and cleaning up:

Stop the spill if it is safe to do so.
Absorb any spilled liquid using dry earth, sand or non-combustible absorbent material and transfer to appropriate covered and labeled waste containers.

6.4 Additional Information:

See Section 8 for information on selection of personal protective equipment.
See Section 13 for information on disposal of spilled product and contaminated absorbents.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Keep out of reach of children.
Do not use near hot surfaces or flames.

7.2 Conditions for safe storage, including any incompatibilities:

Store below 50°C. Store away from ignition sources, extreme heat and out of direct sunlight. Keep markers closed when not in use.

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters:

Occupational Exposure Limits: Measurable airborne concentrations of the component substances are not expected when the markers are used for their intended purpose. Consult local authorities for acceptable exposure limits.

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Section 8: Exposure Controls/Personal Protection, continued

8.2 Exposure controls:

Engineering Controls: General ventilation is normally adequate.

Personal Protection: Workers must comply with the Personal Protective Equipment requirements of the workplace.

Eye/Face Protection: Not required for normal use. In case of accidental release of large quantities of paint, wear goggles.

Skin Protection: Not required for normal use. In case of accidental release of large quantities of paint, wear gloves.

Respiratory Protection: Not required for normal use.

Other Protection: Avoid breathing vapors. Keep out of reach of children.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:	
Appearance:	Solid marker containing liquid, colored paint.
Odor:	Mild odor of solvent.
Odor threshold:	Not available
pH:	Not available
Melting point/freezing point:	Not available
Initial boiling point and boiling range:	120°C (248°F) for 1-methoxypropan-2-ol
Flash point:	31°C (88°F) setaflash for 1-methoxypropan-2-ol
Flammability	Paint contained in marker is a flammable liquid
Auto-ignition temperature:	287°C (594°F) for 1-methoxypropan-2-ol
Upper/lower flammability or explosive limits:	Not available
Explosive properties:	Not available
Oxidizing properties:	Not available
Sensitivity to mechanical impact:	Not available
Sensitivity to static discharge:	Not available
Vapor pressure:	11.8 for 1-methoxypropan-2-ol
Evaporation rate:	<1
Vapor density:	3.12 for 1-methoxypropan-2-ol
Relative density:	1.0 – 1.33 (water=1)
Solubility (is):	Insoluble in water
Partition coefficient (n-octane/water):	Approximately 0.7
Decomposition temperature:	Not available
Viscosity:	Not available
VOC Content:	50 - 60 % (w/w) for liquid paint

Section 10: Stability and Reactivity

10.1 Reactivity:

Not classified for reactivity hazards.

10.2 Chemical Stability:

Stable at normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of Hazardous Reactions:

None known

10.4 Conditions to Avoid:

Do not use in conditions of heat or near open flames and sparks. Avoid heating above 60°C.

10.5 Incompatible Materials:

Paint is incompatible with strong oxidizing agents, such as chlorine and oxygen.

10.6 Hazardous Decomposition Products:

None known when used for its intended purpose. Combustion may produce irritating and/or toxic gases.

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Section 11: Toxicological Information

11.1 Information on toxicological effects:

Acute Health Effects:

Inhalation: This product does not easily form a vapor; inhalation exposure is unlikely to occur, unless the marker is misused. Exposures to high vapor concentrations may cause drowsiness and dizziness.

Ingestion: Not an expected route of exposure with normal use of the product.

Skin: Repeated contact with the skin may cause irritation.

Eye: Not an expected route of exposure with normal use of the product. Direct contact with the liquid paint may cause eye irritation.

Acute Toxicity Data: Acute toxicity data are not available for the mixture.

Chronic Health Effects:
Data are not available.

Sensitization:
Not applicable

Neurological Effects:
Not applicable with normal use of the marker.

Genetic Effects:
Not applicable

Reproductive Effects:
Not applicable

Developmental Effects:
Not applicable with normal use of the marker.

Target Organ Effects:
Not applicable

Carcinogenicity:
This product does not contain any component that is considered a human carcinogen by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists, OSHA or NTP (National Toxicology Program).

Medical Conditions Aggravated by Exposure:
Repeated skin contact may aggravate an existing dermatitis.

Interactions With Other Chemicals:
Data are not available.

Section 12: Ecological Information

12.1 Toxicity:

Germany Water Hazard Classes: 1-methoxypropan-2-ol ID Number 1597, hazard class 1 - low hazard to waters.
Isopropanol ID Number 135, hazard class 1 - low hazard to waters.

12.2 Persistence and degradability:
Not available

12.3 Bioaccumulative potential:
Not available

12.4 Mobility in soil:
Not available

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Section 13: Disposal Considerations

13.1 Waste treatment methods:

Do NOT discard into any sewers, on the ground or into any body of water. Store material for disposal as indicated in Section 7 Handling and Storage. Dispose of in accordance with local, state/provincial and federal laws and regulations.

The conditions of use, storage and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, LA-CO Industries, Inc. does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

Section 14: Transport Information:

Transport Regulations:

U.S. Hazardous Materials Regulation (DOT 49CFR): This product conforms to 49 CFR 173.4 for domestic highway or rail transport only. Conforms to 49 CFR 173.4a Excepted quantity of Class 3 Flammable liquid.

Canadian Transportation of Dangerous Goods (TDG): Dangerous goods in excepted quantity.

IMO Classification: UN1263 , PAINT, Class 3, PGIII, FP 31°C, LTD QTY, EmS F-E, S-E

ICAO/IATA Classification: Dangerous goods in excepted quantity.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

USA

OSHA: Article, Non-Hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.120 (2012).

SARA Title III

Sec. 302/304:	None
Sec: 311/312:	Flammable
Sec. 313:	Isopropanol
CERCLA RQ:	None

California Prop 65: Not applicable

State Right-to-Know: Ethanol, Isopropanol and 1-methoxypropan-2-ol can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, and Massachusetts.

Canada

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products Regulations*.

WHMIS Classification: Manufactured article, Not controlled

Europe

This article is not classified as hazardous according to CLP Regulation (EC) No 1272/2008.

Section 16: Other Information

Text of H-phrases in Section 3:

H225: Highly flammable liquid and vapour.
H226: Flammable liquid and vapour.
H319: Causes serious eye irritation.
H336: May cause drowsiness or dizziness.

SAFETY DATA SHEET

Preparation Information:

Revision date: March 4, 2013

References and sources for data:

CCOHS – ChemInfo
European Commission Joint Research Centre IHCP, European Chemical Substances Information System (ESIS).

Legend to abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists
GHS- Globally Harmonised System for Classification and Labeling
IARC – International Agency for Research on Cancer
LD50- Median lethal dose; the dose causing 50 % lethality
LEV- Local exhaust ventilation
OSHA – United States, Occupational Safety and Health Administration
STEL – Short term exposure limit
TWA – Time weighted average
TLV - Threshold Limit Value
NTP – National Toxicology Program
WHMIS – Canada, Workplace Hazardous Materials Information System

Supplier Note: The information contained herein is based on data available to us and is accurate and reliable to the best of our knowledge and belief. However, LA-CO Industries, Inc. makes no representations as to its completeness or accuracy. Information is supplied on condition that persons receiving such information will make their own determination as to its suitability for their purposes prior to use. In no event will LA-CO Industries, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information contained herein.

Prepared by: LEHDER Environmental Services Limited (519) 336-4101
www.lehder.com
While LEHDER Environmental Services Limited believes that the data set forth herein is accurate, as of the date hereof, LEHDER makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification.

Safety Data Sheet

Material Name: Diesel Fuel, All Types **SDS No. 9909**
US GHS

Synonyms: Ultra Low Sulfur Diesel; Low Sulfur Diesel; No. 2 Diesel; Motor Vehicle Diesel Fuel; Non-Road Diesel Fuel; Locomotive/Marine Diesel Fuel

* * * Section 1 - Product and Company Identification * * *

Manufacturer Information

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS
Emergency # 800-424-9300 CHEMTREC
www.hess.com (Environment, Health, Safety Internet Website)

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 3
Skin Corrosion/Irritation – Category 2
Germ Cell Mutagenicity – Category 2
Carcinogenicity - Category 2
Specific Target Organ Toxicity (Single Exposure) - Category 3 (respiratory irritation, narcosis)
Aspiration Hazard – Category 1
Hazardous to the Aquatic Environment, Acute Hazard – Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

DANGER

Hazard Statements

Flammable liquid and vapor.
Causes skin irritation.
Suspected of causing genetic defects.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.
Harmful to aquatic life.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking
Keep container tightly closed.
Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands and forearms thoroughly after handling.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/mist/vapours/spray.

Response
In case of fire: Use water spray, fog or foam to extinguish.
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.
If swallowed: Immediately call a poison center or doctor. Do NOT induce vomiting.
IF exposed or concerned: Get medical advice/attention.

Storage
Store in a well-ventilated place. Keep cool.
Keep container tightly closed.
Store locked up.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
68476-34-6	Fuels, diesel, no. 2	100
91-20-3	Naphthalene	<0.1

A complex mixture of hydrocarbons with carbon numbers in the range C9 and higher.

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

First Aid: Skin
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops. Thermal burns require immediate medical attention depending on the severity and the area of the body burned.

First Aid: Ingestion
DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, and other gaseous agents.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Handle as a combustible liquid. Keep away from heat, sparks, excessive temperatures and open flame! No smoking or open flame in storage, use or handling areas. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

Incompatibilities

Keep away from strong oxidizers.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: 100 mg/m3 TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel)
Skin - potential significant contribution to overall exposure by the cutaneous route (listed under Diesel fuel)

Naphthalene (91-20-3)

ACGIH: 10 ppm TWA
15 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 10 ppm TWA; 50 mg/m3 TWA
NIOSH: 10 ppm TWA; 50 mg/m3 TWA
15 ppm STEL; 75 mg/m3 STEL

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Clear, straw-yellow.	**Odor:**	Mild, petroleum distillate odor
Physical State:	Liquid	**pH:**	ND
Vapor Pressure:	0.009 psia @ 70 °F (21 °C)	**Vapor Density:**	>1.0
Boiling Point:	320 to 690 °F (160 to 366 °C)	**Melting Point:**	ND
Solubility (H2O):	Negligible	**Specific Gravity:**	0.83-0.876 @ 60°F (16°C)
Evaporation Rate:	Slow; varies with conditions	**VOC:**	ND
Percent Volatile:	100%	**Octanol/H2O Coeff.:**	ND
Flash Point:	>125 °F (>52 °C) minimum	**Flash Point Method:**	PMCC
Upper Flammability Limit (UFL):	7.5	**Lower Flammability Limit (LFL):**	0.6
Burning Rate:	ND	**Auto Ignition:**	494°F (257°C)

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

A: General Product Information

Harmful if swallowed.

B: Component Analysis - LD50/LC50

Naphthalene (91-20-3)

Inhalation LC50 Rat >340 mg/m3 1 h; Oral LD50 Rat 490 mg/kg; Dermal LD50 Rat >2500 mg/kg; Dermal LD50 Rabbit >20 g/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact with eyes may cause mild irritation.

Potential Health Effects: Ingestion

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

Potential Health Effects: Inhalation

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This material has been positive in a mutagenicity study.

Carcinogenicity

A: General Product Information

Suspected of causing cancer.

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

B: Component Carcinogenicity

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel fuel)

Naphthalene (91-20-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Monograph 82 [2002] (Group 2B (possibly carcinogenic to humans))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any specific target organ general toxicity single exposure effects.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ general toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Fuels, diesel, no. 2 (68476-34-6)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	35 mg/L [flow-through]	

Naphthalene (91-20-3)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	5.74-6.44 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	1.6 mg/L [flow-through]	
96 Hr LC50 Oncorhynchus mykiss	0.91-2.82 mg/L [static]	
96 Hr LC50 Pimephales promelas	1.99 mg/L [static]	

96 Hr LC50 Lepomis macrochirus	31.0265 mg/L [static]
72 Hr EC50 Skeletonema costatum	0.4 mg/L
48 Hr LC50 Daphnia magna	2.16 mg/L
48 Hr EC50 Daphnia magna	1.96 mg/L [Flow through]
48 Hr EC50 Daphnia magna	1.09 - 3.4 mg/L [Static]

Persistence/Degradability
No information available.

Bioaccumulation
No information available.

Mobility in Soil
No information available.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions
See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging
Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

DOT Information
Shipping Name: Diesel Fuel
NA #: 1993 **Hazard Class:** 3 **Packing Group:** III
Placard:

*** Section 15 - Regulatory Information ***

Regulatory Information

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Naphthalene (91-20-3)

CERCLA: 100 lb final RQ; 45.4 kg final RQ

SARA Section 311/312 – Hazard Classes

Acute Health	Chronic Health	Fire	Sudden Release of Pressure	Reactive
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product may contain listed chemicals below the de minimis levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right- To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Fuels, diesel, no. 2	68476-34-6	No	No	No	Yes	No	No
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Fuels, diesel, no. 2	68476-34-6	Yes	DSL	EINECS
Naphthalene	91-20-3	Yes	DSL	EINECS

*** Section 16 - Other Information ***

NFPA® Hazard Rating

Health	1
Fire	2
Reactivity	0

HMIS® Hazard Rating

Health	1*	Slight
Fire	2	Moderate
Physical	0	Minimal
		*Chronic

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

None

Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

GS

Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Material Name	:	**Gasoline**
Other Names / Synonyms	:	MOGAS, ULG 95, 88 RON, 90 RON, 91 RON, 92 RON, 93 RON, 95 RON, 97 UNLD, 91 UNLD
Recommended Use / Restrictions of Use	:	Fuel for spark ignition engines designed to run on unleaded fuel.
Supplier	:	**Shell Eastern Trading (PTE) Ltd** 9 North Buona Vista Drive, #07-01, Tower 1, The Metropolis Singapore 138588 Singapore
Telephone	:	+65-6384 8000
Emergency Telephone Number	:	+44 (0) 151 350 4595

2. HAZARDS IDENTIFICATION

GHS Classification	:	Flammable liquids, Category 1 Skin corrosion/irritation, Category 2 Aspiration hazard, Category 1 Toxic to reproduction, Category 2 Germ cell mutagenicity, Category 1B Carcinogenicity, Category 1B Specific target organ toxicity - single exposure, Category 3, Inhalation, Narcotic effects. Acute hazards to the aquatic environment, Category 2 Hazardous to the aquatic environment - Long-term Hazard, Category 2
GHS Label Elements Symbol(s)	:	
Signal Words	:	Danger
Hazard Statement	:	PHYSICAL HAZARDS:

Safety Data Sheet

H224: Extremely flammable liquid and vapour.

HEALTH HAZARDS:
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H350: May cause cancer.
H361: Suspected of damaging fertility or the unborn child.

ENVIRONMENTAL HAZARDS:
H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.

GHS Precautionary Statements

Prevention : P201: Obtain special instructions before use.
P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response : P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage : P403+P233: Store in a well-ventilated place. Keep container tightly closed.

Disposal: : P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other Hazards which do not result in classification : Liquid evaporates quickly and can ignite leading to a flash fire, or an explosion in a confined space. This material is a static accumulator. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.
Slightly irritating to respiratory system. This product contains benzene which may cause leukaemia (AML - acute myelogenous leukaemia). May cause MDS (Myelodysplastic Syndrome).

Additional Information : This product is intended for use in closed systems only.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture Description : Complex mixture of hydrocarbons consisting of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons with carbon numbers predominantly in the C4 to C12 range. Includes benzene at 0.1 - 5% v/v. Contains oxygenated hydrocarbons which may include methyl tertiary butyl ether (MTBE) and other ethers. May also contain several additives at <0.1% v/v each.

Synonyms : MOGAS, ULG 95, 88 RON, 90 RON, 91 RON, 92 RON, 93 RON, 95 RON, 97 UNLD, 91 UNLD

Classification of components according to GHS

Chemical Identity	Synonyms	CAS	Hazard Class (category)	Hazard Statement	Conc.
Gasoline, low boiling point naphtha	Gasoline, low boiling point naphtha	86290-81-5	Flam. Liq., 1; Skin Corr., 2; Asp. Tox., 1; Muta., 1B; Carc., 1B; STOT SE, 3; Aquatic Chronic, 2; Aquatic Acute, 2; Repr., 2;	H224; H315; H304; H340; H350; H336; H411; H401; H361;	85.00 - 100.00 %
Ethyl tertiary butyl ether	Ethyl tertiary butyl ether	637-92-3	Flam. Liq., 2; STOT SE, 3; Asp. Tox., 2; Aquatic Acute, 3;	H225; H336; H305; H402;	0.00 - 15.00 %
Methyl tertiary butyl ether	Methyl tertiary butyl ether	1634-04-4	Flam. Liq., 2; Skin Corr., 3; Acute Tox., 5; Asp. Tox., 2;	H225; H316; H303; H305;	0.00 - 15.00 %
Tertiary amyl methyl ether	Tertiary amyl methyl ether	994-05-8	Flam. Liq., 2; Acute Tox., 4; STOT SE, 3;	H225; H302; H336;	0.00 - 15.00 %

Additional Information : Contains Benzene, CAS # 71-43-2. Contains Toluene, CAS # 108-88-3. Contains Ethylbenzene, CAS # 100-41-4. Contains n-Hexane, CAS # 110-54-3. Contains Xylene (Mixed Isomers), CAS # 1330-20-7. Contains Cyclohexane, CAS# 110-82-7. Contains Cumene, CAS# 98-82-8 Contains Tri-methyl-benzene (all isomers), CAS# 25551-13-7.

CA 91

Contains Naphthalene, CAS # 91-20-3.

The amount of oxygenated components is limited at 2.7 % m/m calculated as oxygen. Alcohols may be present at <0.1%v. Dyes and markers can be used to indicate tax status and prevent fraud. Refer to Ch 16 for full text of H phrases.

Refer to chapter 16 for full text of EC R-phrases.

4. FIRST-AID MEASURES

Inhalation	:	Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.
Skin Contact	:	Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment. When using high pressure equipment, injection of product under the skin can occur. If high pressure injuries occur, the casualty should be sent immediately to a hospital. Do not wait for symptoms to develop.
Eye Contact	:	Flush eyes with water while holding eyelids open. Rest eyes for 30 minutes. If redness, burning, blurred vision, or swelling persist transport to the nearest medical facility for additional treatment.
Ingestion	:	If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing.
Most Important Symptoms/Effects, Acute & Delayed	:	Skin irritation signs and symptoms may include a burning sensation, redness, or swelling. Eye irritation signs and symptoms may include a burning sensation and a temporary redness of the eye. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Auditory system effects may include temporary hearing loss and/or ringing in the ears.

Immediate medical attention, special treatment	:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

Specific hazards arising from Chemicals	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water.
Suitable Extinguishing Media	:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media	:	Do not use direct water jets on the burning product as they could cause a steam explosion and spread of the fire. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
Protective Equipment & Precautions for Fire Fighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).
Additional Advice	:	Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate immediately. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with skin, eyes and clothing. Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly. If contamination of sites occurs remediation may require specialist advice. Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Observe the relevant local and international regulations. Take precautionary measures against static discharges.

Personal Precautions, Protective Equipment and Emergency Procedures	:	Do not breathe fumes, vapour. Do not operate electrical equipment. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Vapour can travel for considerable distances both above and below the ground surface. Underground services (drains, pipelines, cable ducts) can provide preferential flow paths. Evacuate all personnel. Attempt to disperse vapour or to direct its flow to a safe location for example using fog sprays.
Environmental Precautions	:	Take measures to minimise the effects on groundwater. Contain residual material at affected sites to prevent material from entering drains (sewers), ditches, and waterways. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.
Methods and Material for Containment and Cleaning Up	:	Take precautionary measures against static discharges. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
Additional Advice	:	Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. Maritime spillages should be dealt with using a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex 1 Regulation 26. To the extent that this product, including its chemical components (e.g. methyl tertiary butyl ether) may impact surface or groundwater, appropriate assessment and remediation (if necessary) should be implemented.

7. HANDLING AND STORAGE

General Precautions	:	Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for

		safe handling, storage and disposal of this material. Air-dry contaminated clothing in a well-ventilated area before laundering. Prevent spillages. Turn off all battery operated portable electronic devices (examples include: cellular phones, pagers and CD players) before operating gasoline pump. Contaminated leather articles including shoes cannot be decontaminated and should be destroyed to prevent reuse. Do not use as a cleaning solvent or other non-motor fuel uses. Vehicle fueling and vehicle workshop areas - Avoid inhalation of vapours and contact with skin, when filling or emptying a vehicle.
Precautions for Safe Handling	:	When using do not eat or drink. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Never siphon by mouth. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Avoid exposure. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols. Properly dispose of any contaminated rags or cleaning materials in order to prevent fires.
Conditions for Safe Storage	:	Drum and small container storage: Keep containers closed when not in use. Drums should be stacked to a maximum of 3 high. Use properly labelled and closeable containers. Packaged product must be kept tightly closed and stored in a diked (bunded) well-ventilated area, away from, ignition sources and other sources of heat. Take suitable precautions when opening sealed containers, as pressure can build up during storage. Tank storage: Tanks must be specifically designed for use with this product. Bulk storage tanks should be diked (bunded). Locate tanks away from heat and other sources of ignition. Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions. Keep in a cool place. Electrostatic charges will be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
Product Transfer	:	Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes. Wait 30 minutes after tank filling (for large storage tanks) before opening hatches or manholes. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to

		accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/s until fill pipe submerged to twice its diameter, then <= 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.
Recommended Materials	:	For containers, or container linings use mild steel, stainless steel. Aluminium may also be used for applications where it does not present an unnecessary fire hazard. Examples of suitable materials are: high density polyethylene (HDPE), polypropylene (PP), and Viton (FKM), which have been specifically tested for compatibility with this product. For container linings, use amine-adduct cured epoxy paint. For seals and gaskets use: graphite, PTFE, Viton A, Viton B.
Unsuitable Materials	:	Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber (NR), nitrile rubber (NBR), ethylene propylene rubber (EPDM), polymethyl methacrylate (PMMA), polystyrene, polyvinyl chloride (PVC), polyisobutylene. However, some may be suitable for glove materials.
Container Advice	:	Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers. Gasoline containers must not be used for storage of other products.
Other Advice	:	Ensure that all local regulations regarding handling and storage facilities are followed. See additional references that provide safe handling practices for liquids that are determined to be static accumulators: American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices on Static Electricity). CENELEC CLC/TR 50404 (Electrostatics – Code of practice for the avoidance of hazards due to static electricity).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

Occupational Exposure Limits

Material	Source	Type	ppm	mg/m3	Notation
Gasoline, low boiling point naphtha	ACGIH	TWA	300 ppm		
	ACGIH	STEL	500 ppm		
	SG OEL	TWA	300 ppm	890 mg/m3	
	SG OEL	STEL	500 ppm	1,480 mg/m3	
Trimethylbenzene , all isomers	ACGIH	TWA	25 ppm		
	SG OEL	TWA	25 ppm	123 mg/m3	
Ethylbenzene	ACGIH	TWA	20 ppm		
	SG OEL	TWA	100 ppm	434 mg/m3	
	SG OEL	STEL	125 ppm	543 mg/m3	
n-hexane	ACGIH	TWA	50 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin.
	SG OEL	TWA	50 ppm	176 mg/m3	
Benzene	ACGIH	TWA	0.5 ppm		
	ACGIH	STEL	2.5 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin.
	SG OEL	TWA	1 ppm	3.18 mg/m3	

	SHELL IS	TWA	0.5 ppm	1.6 mg/m3	
	SHELL IS	STEL	2.5 ppm	8 mg/m3	
Toluene	ACGIH	TWA	20 ppm		
	SG OEL	TWA	50 ppm	188 mg/m3	
Xylene	ACGIH	TWA	100 ppm		
	ACGIH	STEL	150 ppm		
	SG OEL	TWA	100 ppm	434 mg/m3	
	SG OEL	STEL	150 ppm	651 mg/m3	
Cyclohexane	ACGIH	TWA	100 ppm		
	SG OEL	TWA	300 ppm	1,030 mg/m3	
Naphthalene	ACGIH	TWA	10 ppm		
	ACGIH	STEL	15 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin.
	SG OEL	TWA	10 ppm	52 mg/m3	
	SG OEL	STEL	15 ppm	79 mg/m3	
Ethyl tertiary butyl ether	ACGIH	TWA	25 ppm		
Methyl tertiary butyl ether	ACGIH	TWA	50 ppm		
	SG OEL	TWA	40 ppm	144 mg/m3	
Tertiary amyl methyl ether	ACGIH	TWA	20 ppm		
Cumene	ACGIH	TWA	50 ppm		
	SG OEL	TWA	50 ppm	246 mg/m3	

Additional Information : SHELL IS is the Shell Internal Standard. Skin notation means that significant exposure can also occur by absorption of liquid through the skin and of vapour through the eyes or mucous membranes.

Biological Exposure Index (BEI)

Material	Determinant	Sampling Time	BEI	Reference
Benzene	t,t-Muconic acid in Creatinine in urine	Sampling time: End of shift.	500 µg/g	ACGIH BEL (2011)
	S-Phenylmercapturic acid in Creatinine in urine	Sampling time: End of shift.	25 µg/g	ACGIH BEL (2011)
n-hexane	2,5-Hexanedion, without hydrolysis in Urine	Sampling time: End of shift at end of work week.	0.4 mg/l	ACGIH BEL (2011)
Toluene	o-Cresol, with hydrolysis in Creatinine in urine	Sampling time: End of shift.	0.3 mg/g	ACGIH BEL (2011)
	toluene in Blood	Sampling time: Prior to last shift of work week.	0.02 mg/l	ACGIH BEL (2011)
	toluene in Urine	Sampling time: End of shift.	0.03 mg/l	ACGIH BEL (2011)

Ethylbenzene	Sum of mandelic acid and phenylglyoxylic acid in Creatinine in urine	Sampling time: End of shift at end of work week.	0.7 g/g	ACGIH BEL (2011)
	Ethyl benzene in End-exhaled air	Sampling time: Not critical.		ACGIH BEL (2011)
Xylene	Methylhippuric acids in Creatinine in urine	Sampling time: End of shift.	1.5 g/g	ACGIH BEL (2011)
Naphthalene	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis	Sampling time: End of shift.		ACGIH BEL (02 2013)

Appropriate Engineering Controls : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Eye washes and showers for emergency use. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Firewater monitors and deluge systems are recommended. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle.

Individual Protection Measures	:	Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
Respiratory Protection	:	If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. All respiratory protection equipment and use must be in accordance with local regulations. Select a filter suitable for combined particulate/organic gases and vapours [boiling point >65°C(149 °F)].
Hand Protection	:	Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognise that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time may be acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Select gloves tested to a relevant standard (e.g. Europe EN374, US F739). When prolonged or frequent repeated contact occurs, Nitrile gloves may be suitable. (Breakthrough time of > 240 minutes.) For incidental contact/splash protection Neoprene, PVC gloves may be suitable.
Eye Protection	:	Chemical splash goggles (chemical monogoggles). If a local risk assessment deems it so, then chemical splash goggles may not be required and safety glasses may provide adequate eye protection.
Protective Clothing	:	Chemical resistant gloves/gauntlets, boots, and apron (where risk of splashing).
Thermal Hazards	:	Not applicable.

Monitoring Methods	:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory. Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/ Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Environmental Exposure Controls	:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Take appropriate measures to fulfil the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Yellow. Clear, bright liquid.
Odour	:	Hydrocarbon
Odour threshold	:	Data not available
pH	:	Data not available
Initial Boiling Point and Boiling Range	:	25 - 220 °C / 77 - 428 °F
Freezing Point	:	Data not available
Flash point	:	-40 °C / -40 °F (Tagliabue Closed Cup)
Upper / lower Flammability or Explosion limits	:	1 - 8 %(V)
Auto-ignition temperature	:	> 250 °C / 482 °F
Vapour pressure	:	Typical 570 hPa at 37.8 °C / 100.0 °F
Relative Density	:	Data not available
Density	:	Typical 0.740 g/cm3 at 15 °C / 59 °F
Water solubility	:	Negligible.
Solubility in other solvents	:	Data not available
n-octanol/water partition	:	2 - 7

coefficient (log Pow)		
Dynamic viscosity	:	Data not available
Kinematic viscosity	:	0.5 - 0.75 mm2/s at 40 °C / 104 °F
Vapour density (air=1)	:	Data not available
Electrical conductivity	:	Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.
Evaporation rate (nBuAc=1)	:	Data not available
Decomposition Temperature	:	Data not available
Flammability	:	Extremely flammable.

10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under normal conditions of use.
Possibility of Hazardous Reactions	:	No hazardous reaction is expected when handled and stored according to provisions.
Conditions to Avoid	:	Avoid heat, sparks, open flames and other ignition sources.
Incompatible Materials	:	Strong oxidising agents.
Hazardous Decomposition Products	:	Hazardous decomposition products are not expected to form during normal storage. Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.
Hazardous Polymerisation	:	No
Sensitivity to Mechanical Impact	:	No
Sensitivity to Static Discharge	:	Yes, in certain circumstances product can ignite due to static electricity.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological effects

Basis for Assessment	:	Information given is based on product data, a knowledge of the components and the toxicology of similar products. Unless indicated otherwise, the data presented is representative of the

EO

product as a whole, rather than for individual component(s).

Likely Routes of Exposure	:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.
Acute Oral Toxicity	:	Low toxicity: LD50 > 5000 mg/kg
Acute Dermal Toxicity	:	Low toxicity: LD50 >2000 mg/kg , Rabbit
Acute Inhalation Toxicity	:	Low toxicity: LC50 >5 mg/l , 4 h, Rat
Skin corrosion/irritation	:	Irritating to skin.
Serious eye damage/irritation	:	Expected to be slightly irritating.
Respiratory Irritation	:	Based on human experience, breathing of vapours or mists may cause a temporary burning sensation to nose, throat and lungs.
Respiratory or skin sensitisation	:	Not expected to be a sensitiser.
Aspiration Hazard	:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Germ cell mutagenicity	:	May cause heritable genetic damage. (Benzene) Mutagenicity studies on gasoline and gasoline blending streams have shown predominantly negative results.
Carcinogenicity	:	Known human carcinogen. (Benzene) May cause leukaemia (AML - acute myelogenous leukemia). (Benzene) Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans.

Material	:	**Carcinogenicity Classification**
Gasoline, low boiling point naphtha	:	ACGIH Group A3: Confirmed animal carcinogen with unknown relevance to humans.
Gasoline, low boiling point naphtha	:	IARC 2B: Possibly carcinogenic to humans.
Gasoline, low boiling point naphtha	:	GHS / CLP: Carcinogenicity Category 1B
Trimethylbenzene, all isomers	:	GHS / CLP: No carcinogenicity classification
Ethylbenzene	:	IARC 2B: Possibly carcinogenic to humans.
Ethylbenzene	:	GHS / CLP: No carcinogenicity classification
n-hexane	:	GHS / CLP: No carcinogenicity classification

Benzene	:	ACGIH Group A1: Confirmed human carcinogen.
Benzene	:	NTP: Known To Be Human Carcinogen.
Benzene	:	IARC 1: Carcinogenic to humans.
Benzene	:	GHS / CLP: Carcinogenicity Category 1A
Toluene	:	ACGIH Group A4: Not classifiable as a human carcinogen.
Toluene	:	IARC 3: Not classifiable as to carcinogenicity to humans.
Toluene	:	GHS / CLP: No carcinogenicity classification
Xylene	:	ACGIH Group A4: Not classifiable as a human carcinogen.
Xylene	:	IARC 3: Not classifiable as to carcinogenicity to humans.
Xylene	:	GHS / CLP: No carcinogenicity classification
Cyclohexane	:	GHS / CLP: No carcinogenicity classification
Naphthalene	:	ACGIH Group A4: Not classifiable as a human carcinogen.
Naphthalene	:	NTP: Reasonably Anticipated to be a Human Carcinogen.
Naphthalene	:	IARC 2B: Possibly carcinogenic to humans.
Naphthalene	:	GHS / CLP: Carcinogenicity Category 2
Ethyl tertiary butyl ether	:	ACGIH Group A4: Not classifiable as a human carcinogen.
Ethyl tertiary butyl ether	:	GHS / CLP: No carcinogenicity classification
Methyl tertiary butyl ether	:	IARC 3: Not classifiable as to carcinogenicity to humans.
Methyl tertiary butyl ether	:	GHS / CLP: No carcinogenicity classification
Tertiary amyl methyl ether	:	GHS / CLP: No carcinogenicity classification
Cumene	:	IARC 2B: Possibly carcinogenic to humans.
Cumene	:	GHS / CLP: No carcinogenicity classification

Reproductive and Developmental Toxicity : Causes foetotoxicity at doses which are maternally toxic. (Toluene)
May impair fertility at doses which produce other toxic effects. (n-hexane)
Many case studies involving abuse during pregnancy indicate that toluene can cause birth defects, growth retardation and learning difficulties. (Toluene)
Inhalation of high concentrations of gasoline vapour containing Methyl tertiary butyl ether produced a very low incidence of rare birth defects (ventral midline closure failure) in mice.

Specific target organ toxicity - single exposure : High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

Specific target organ toxicity - repeated exposure : Kidney: caused kidney effects in male rats which are not considered relevant to humans

Blood-forming organs: repeated exposure affects the bone

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marrow.

Additional Information : Prolonged and repeated exposures to high concentrations have resulted in hearing loss in rats. Solvent abuse and noise interaction in the work environment may cause hearing loss. (Toluene)

Abuse of vapours has been associated with organ damage and death. (Toluene)

Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest.

May cause MDS (Myelodysplastic Syndrome). (Benzene)

Classifications by other authorities under varying regulatory frameworks may exist.

12. ECOLOGICAL INFORMATION

Basis for Assessment : Fuels are typically made from blending several refinery streams. Ecotoxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Acute Toxicity : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.

Fish : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l

Aquatic crustacea : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l

Algae/aquatic plants : Expected to be toxic: LL/EL/IL50 > 1 <= 10 mg/l

Microorganisms : Expected to be harmful: LL/EL/IL50 >10 <= 100 mg/l

Chronic Toxicity

Fish : NOEC/NOEL expected to be > 1.0 - <= 10 mg/l

Aquatic crustacea : NOEC/NOEL expected to be > 1.0 - <= 10 mg/l

Mobility : Evaporates within a day from water or soil surfaces. Large volumes may penetrate soil and could contaminate groundwater. Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment. Ether oxygenates are significantly more water soluble and less biodegradable

		than benzene, toluene, ethyl benzene and xylenes (BTEX). Consequently ether oxygenates have the potential to migrate relatively longer distances than BTEX in groundwater. Contains volatile components. Floats on water. Methyl tertiary butyl ether degradation may result in the formation of tert-butyl alcohol (TBA).
Persistence/degradability	:	Major constituents are expected to be inherently biodegradable, but the product contains components that may persist in the environment. The volatile constituents will oxidize rapidly by photochemical reactions in air. While biodegradation of Methyl tertiary butyl ether has been documented, it is generally less biodegradable than many petroleum hydrocarbons and has a potential to migrate relatively longer distances in groundwater.
Bioaccumulative Potential	:	Contains constituents with the potential to bioaccumulate. Log Kow > =4
Other Adverse Effects	:	Films formed on water may affect oxygen transfer and damage organisms.

13. DISPOSAL CONSIDERATIONS

Material Disposal	:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose into the environment, in drains or in water courses. Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination.
Container Disposal	:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer. Do not pollute the soil, water or environment with the waste container.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be in compliance.

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14. TRANSPORT INFORMATION

Land (as per ADR classification): Regulated

Class	:	3
Packing group	:	II
Hazard indentification no.	:	33
UN number	:	1203
Danger label (primary risk)	:	3
Proper shipping name	:	GASOLINE (UNLEADED)
Environmentally Hazardous	:	Yes

IMDG

Identification number	UN 1203
Proper shipping name	GASOLINE
Technical name	(UNLEADED)
Class / Division	3
Packing group	II
Environmental hazards:	Yes

IATA (Country variations may apply)

UN number	:	1203
Proper shipping name	:	Gasoline
Technical name	:	(UNLEADED)
Class / Division	:	3
Packing group	:	II

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution Category	:	Not applicable.
Ship Type	:	Not applicable.
Product Name	:	Not applicable.
Special Precaution	:	Not applicable.
Additional Information	:	MARPOL Annex 1 rules apply for bulk shipments by sea.

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Local Regulations

Workplace Safety and Health Act & Workplace	:	This product is subject to the requirement in the Act/ Regulations.

Safety and Health (General Provision) Regulations		
Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations	:	This product is subject to the requirement in the Act/ Regulations.
Maritime and Port Authority of Singapore (Dangerous Goods, Petroleum and Explosives) Regulations	:	This product is subject to the requirement in the Act/ Regulations.
Fire Safety Act and Fire Safety (Petroleum & Flammable Materials) Regulations	:	This product is subject to the requirement in the Act/ Regulations.
Classification triggering components	:	Contains gasoline, low boiling point naphtha, unspecified.

16. OTHER INFORMATION

Hazard Statement

H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H303	May be harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H305	May be harmful if swallowed and enters airways.
H315	Causes skin irritation.
H316	Causes mild skin irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Additional Information	:	This document contains important information to ensure the safe storage, handling and use of this product. The information in this document should be brought to the attention of the person in your organisation responsible for advising on safety matters.
SDS Version Number	:	1.0
SDS Effective Date	:	10.03.2014

Safety Data Sheet

SDS Revisions	:	A vertical bar (|) in the left margin indicates an amendment from the previous version.
Uses and Restrictions	:	This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier. This product is not to be used as a solvent or cleaning agent; for lighting or brightening fires; as a skin cleanser. This product is designed only to suit automotive applications and no provision is made for the requirements of aviation applications.
SDS Distribution	:	The information in this document should be made available to all who may handle the product.
Key/Legend to Abbrevations used in this SDS	:	The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

Flam. Liq.	Flammable liquids
Asp. Tox.	Aspiration hazard
Muta.	Germ cell mutagenicity
Carc.	Carcinogenicity
Skin Corr.	Skin corrosion/irritation
STOT SE	Specific target organ toxicity - single exposure
	Toxic for Reproduction

Key Literature References	:	The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).
Disclaimer	:	This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SAFETY DATA SHEET

1. Identification

Product identifier	**Compressor Oil**
Other means of identification	
Product code	SL22131, SL22133
Recommended use	Compressor oil
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor Information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
OSHA defined hazards	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use. Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), solvent-refined heavy naphthenic		64741-96-4	60 - 70
Distillates (petroleum), hydrotreated light naphthenic		64742-53-6	20 - 30
Distillates (petroleum), solvent-dewaxed heavy paraffinic		64742-65-0	1 - 3
Kerosene		8008-20-6	1 - 3

EE

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	Wash off with plenty of water. Remove and isolate contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
Eye contact	Rinse immediately with plenty of water, also under the eyelids. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Drink 1 or 2 glasses of water. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if symptoms occur. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	Cool containers exposed to heat with water spray and remove container, if no risk is involved.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	The product is immiscible with water and will spread on the water surface. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Wear appropriate personal protective equipment. Avoid prolonged or repeated contact with skin. Avoid prolonged exposure. Use only in well-ventilated areas. When using, do not eat, drink or smoke. Wash contaminated clothing before reuse. Use appropriate container to avoid environmental contamination. For product usage instructions, please see the product label.
Conditions for safe storage, including any incompatibilities	Keep away from heat and sources of ignition. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

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8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	PEL	5 mg/m3	Mist.
		2000 mg/m3 500 ppm	
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	PEL	5 mg/m3	Mist.
		2000 mg/m3 500 ppm	
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	PEL	5 mg/m3	Mist.
		2000 mg/m3 500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	TWA	5 mg/m3	Inhalable fraction.
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	TWA	5 mg/m3	Inhalable fraction.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	TWA	5 mg/m3	Inhalable fraction.
Kerosene (CAS 8008-20-6)	TWA	200 mg/m3	Non-aerosol.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.
Kerosene (CAS 8008-20-6)	TWA	100 mg/m3	

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

Kerosene (CAS 8008-20-6) Can be absorbed through the skin.

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	10-26-2015
Prepared by	Allison Cho
Version #	01
Further information	Not available.
HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 1 Flammability: 1 Instability: 0
NFPA ratings	
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)
Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS 64742-65-0)
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)
Kerosene (CAS 8008-20-6)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)
Distillates (petroleum), solvent-refined heavy naphthenic (CAS 64741-96-4)
Kerosene (CAS 8008-20-6)

US. New Jersey Worker and Community Right-to-Know Act

Kerosene (CAS 8008-20-6)

US. Rhode Island RTK

None.

US. Pennsylvania Worker and Community Right-to-Know Law

Phenol (CAS 108-95-2)
Kerosene (CAS 8008-20-6)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s))	Not determined
Consumer products (40 CFR 59, Subpt. C)	Not regulated

State

Consumer products	Not regulated
VOC content (CA)	0 %
VOC content (OTC)	0 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

Product		Species	Test Results
Compressor Oil			
Aquatic			
Crustacea	EC50	Daphnia	42245.6719 mg/l, 48 hours estimated
Fish	LC50	Fish	30691.2148 mg/l, 96 hours estimated

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This product is not a RCRA hazardous waste (See 40 CFR Part 261.20 – 261.33). Empty containers may be recycled. Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

SARA 304 Emergency release notification

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged or excessive inhalation may cause respiratory tract irritation.
Skin contact	Prolonged skin contact may cause temporary irritation. Repeated exposure may cause skin dryness or cracking.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not available.

Product	Species	Test Results
Compressor Oil		
Acute		
Dermal		
LD50	Rabbit	5134 mg/kg estimated
Inhalation		
LC50	Rat	8229 mg/m³, 4 hours estimated
Oral		
LD50	Rat	5085 mg/kg estimated

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not available.

US. National Toxicology Program (NTP) Report on Carcinogens

Not available.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Chronic effects	Prolonged inhalation may be harmful.
Further information	This product has no known adverse effect on human health.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves such as: Nitrile. Polyvinyl chloride (PVC).
Other	Wear suitable protective clothing.
Respiratory protection	If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with an organic vapor cartridge. Use a self-contained breathing apparatus in confined spaces and for emergencies. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Amber.
Odor	Mild petroleum.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	347 °F (175 °C) estimated
Flash point	350 °F (176.7 °C) Pensky-Martens Closed Cup
Evaporation rate	Very slow.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.7 % estimated
Flammability limit - upper (%)	5 % estimated
Vapor pressure	0.6 hPa estimated
Vapor density	> 5 (air = 1)
Relative density	0.9 - 0.92
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	410 °F (210 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	107 mm²/s (104 °F (40 °C))
Percent volatile	70.3 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.

Fire Protection Products, Inc.
3198 Lionshead Avenue
Carlsbad, CA 92010
Phone: +1 (800) 344-1822
Fax: +1 (800) 344-3775

SAFETY DATA SHEET

Last Updated: 9/17/2015

Section 1	IDENTIFICATION

LubeFit® Pipe Joint Lubricant

Manufacturer Information	Emergency Contact
Fire Protection Products, Inc. 3198 Lionshead Avenue Carlsbad, CA 92010 Phone: +1 (800) 344-1822 Fax: +1 (800) 344-3775	CHEMTREC 1300 Wilson Boulevard Arlington, VA 22209-2380 Phone: +1 (800) 424-9300 International: +1 (703) 527-3887

Product Use	Joint Lubricant

Section 2	HAZARDS IDENTIFICATION
Hazard Classification	Not Hazardous
Skin Irritant: 3 Eye Irritant: 2B	Warning
Hazard Statements	Causes mild skin and eye irritation.
Precautionary Statements	Wash skin thoroughly after handling.
Prevention	Wash skin thoroughly after handling.
Response	If skin irritation occurs, get medical advice/attention. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep out of the reach of children.
Disposal	Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your supplier or a licensed contractor for detailed recommendations. Do not re-use empty containers.

Section 3	COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	Weight %
Mixed sodium and potassium salts of tall oil (soap)	68606-06-4 EINECS 271-723-9	15-25%

Section 4	FIRST AID MEASURES
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Skin	Wash off immediately with soap and water. If skin irritation persists, call a physician.
Eye	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Drink plenty of water. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately
Symptoms	Direct contact with eyes may cause temporary irritation. Prolonged or repeated skin contact may cause irritation.
Medical Care	If symptoms persist, call a physician.

Section 5	FIRE FIGHTING MEASURES
Flash Point	> 104° C/ > 220° F
Extinguishing Media	Water. Water spray (fog). Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical.
Special Firefighting Procedures/Equipment	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
Unusual Fire and Explosion Hazards	CAUTION: Use of water spray when fighting fires may be inefficient.
Additional Information	N/A

Section 6	ACCIDENTAL RELEASE MEASURES
Personal Precautions	Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Use personal protective equipment. Keep people away from and upwind of spill/leak.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.
Methods and Materials Use for Containment	Dike to collect large liquid spills. Prevent leakage or spillage if safe to do so.
Methods for Clean Up	Dam up. Soak up with inert absorbent material. Place the bulk of any spilled material into properly labeled containers. Rinse any remaining material to sewage treatment facility. Clean up in accordance with all applicable regulations.

Section 7	*HANDLING AND STORAGE*
Handling	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Do not take internally.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep out of the reach of children.

Section 8	EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Guidelines

Components	CAS-No.	Type	Value
Mixed sodium and potassium salts of tall soap.	68606-06-4 EINECS 271-723-9	Not hazardous to health	15-25%

Engineering Controls	Eyewash stations, Showers, Ventilation Systems.
Personal Protection	Eye/Face Protection: Wear protective eyeglasses or chemical safety goggles. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.
	Skin Protection: Wear chemically protective gloves to prevent prolonged or repeated skin contact.
	Respiratory Protection: If respirators are used, OSHA requires a written respiratory program that includes at least medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.
General Measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended.

Section 9	PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Paste, off-white	**Evaporation Rate:** N/A
Odor: Bland	**Flammability:** Not Determined.
Odor Threshold: Not Determined.	**Upper/lower Flammability and/or Explosive Limits:** N/A
pH: ≈9	**Vapor Pressure:** N/A
Melting Point/Freezing Point: < 0° C/< 32° F	**Vapor Density:** N/A
Boiling Point and Boiling Range: > 104° C/ > 220° F	**Relative Density:** g/mL
Flash Point: > 104° C/ > 220° F	**Solubility:** Not Determined.
Partition Coefficient: Not Determined.	**Auto-Ignition Temperature:** Not Determined.
Decomposition Temperature: Not Determined.	**Viscosity:** < 1%
VOC Content: 4 g/L	

Section 10	STABILITY AND REACTIVITY

Reactivity	Not reactive under normal conditions.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to Avoid	Contact with incompatible material.
Hazardous Decomposition	Carbon oxides.

Section 11	TOXICOLOGICAL INFORMATION
Ingestion Toxicity	Do not taste or swallow. **LD50 Oral** 22665 mg/kg: Acute toxicity estimate mg/kg mg/L
Skin Toxicity	May cause mild skin irritation.
Eye Irritation	Causes eye irritation.
Respiratory Irritation	Not a likely route of exposure.
Chronic Toxicity	Direct contact with eyes may cause temporary irritation. Prolonged or repeated contact may dry skin and cause irritation.
Carcinogenicity	This product does not contain and carcinogens or potential carcinogens as listed by OSHA, IARC, or NTP.
Other	N/A
Section 12	**ECOLOGICAL INFORMATION**
Ecotoxicity	The environmental impact of this product has not been fully investigated.
Degradability	No information available.
Other	No information available.
Section 13	**DISPOSAL CONSIDERATIONS**
Waste Disposal Method	Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your supplier or a licensed contractor for detailed recommendations. Don not re-use empty containers.
Section 14	**TRANSPORT INFORMATION**
UN Number	Not regulated.
UN Proper Shipping Name	Not regulated.
Transport Hazard Class	N/A
Canadian Transportation of Dangerous Goods	N/A
Marine Pollutants	N/A
Special Precautions	N/A

Section 15	REGULATORY INFORMATION
TSCA Status	All ingredients appear on inventory.
SARA 311/312 Hazards	Acute Health Hazard: Yes Chronic Health Hazard: No Fire Hazard: No Sudden Release of Pressure Hazard: No Reactive Hazard: No
California Prop 65	This product does not contain any Proposition 65 chemicals.
DSL Status (Canada)	All components of this product are listed or are exempt
Section 16	**OTHER INFORMATION**
Additional Information	There are no Red List materials included in this product.
Prepared By	Human Resource Department
Revised Date	September 17, 2015
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