

TAB #5 K-O

BRAND/ MANUFACTURER	PRODUCT
Keson	Red Marking Chalk
Klean Strip	Paint Thinner
Milwaukee Tools	Lithium—Ion Batteries
Motor Medic	Power Steering Fluid
O'Reilly	Synthetic DOT 3 Brake Fluid
O'Reilly	Universal Antifreeze and Coolant



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DATE: 1.1.18 Rev 7

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Permanent Marking Chalk Red

USE OF PRODUCT: Chalk Box Marking Chalk

MANUFACTURER: Keson Industries

ADDRESS: 810 Commerce St., Aurora, IL 60504

EMERGENCY PHONE: 1-800-345-3766 (8am to 5pm Central Time, Monday – Friday)

SECTION 2: HAZARDS IDENTIFICATION

OSHA GHS Hazard Statements (Warning Label)

DANGER: May cause cancer (lung)

Hazard Ratings:

Hazardous Material Identification System (HMIS): Health 1*, Flammability 0, Reactivity 0*chronic effects

National Fire Protection Association (NFPA): Health 1, Flammability 0, Reactivity 0

EMERGENCY OVERVIEW:

Product Description: These products are colored, finely powdered, odorless chalks. Health Hazards: Inhalation of dusts from this product may irritate the respiratory system. Skin and eye contact may cause mechanical abrasion. These chalks contain Crystalline Silica, a known human carcinogen by inhalation.

Flammability Hazards: These chalks are not flammable. Finely divided dusts from these products can form explosive mixtures in air. If involved in a fire, these products may decompose to form iron oxides, aluminum oxides, silicon dioxide, sulfur dioxide, magnesium oxides, carbon oxides and calcium oxides.

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation. Chalk dust is discomforting and abrasive to the eyes.

SKIN: Prolonged contact may cause irritation. When the product is used as intended, it is unlikely to cause problems.

INGESTION: Ingestion of large amount may cause internal irritation. Ingestion is considered an unlikely route of entry in commercial or industrial environments.

INHALATION: May irritate the respiratory system. When the product is used as intended, it is unlikely to cause problems.

Chronic: Repeated or prolonged inhalation exposure to crystalline silica dust beyond exposure limits may cause chronic lung injury (silicosis). Prolonged inhalation of iron oxide dust is known to produce a benign lung condition known as siderosis. When the product is used as intended, dust levels should not exceed exposure limits. See Sections 8 and 11.



WARNING



DANGER

Obtain special instructions before use. May cause cancer by inhalation. Avoid breathing dust or fume. Causes serious eye irritation. Causes mild skin irritation. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection.



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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	Value (%)	CAS No.	EC No.
Calcium carbonate (1)	40-60	471-34-1	207-439-9
Red Iron Oxide	40-60	1317-61-9	215-168-2
Silica (crystalline quartz) (1)	0.1 - 1	14808-60-7	238-878-4

1 Calcium carbonate may contain crystalline silica at levels between 0.1 and 1.0 % and varies naturally.

SECTION 4: FIRST AID MEASURES

EYES: If product enters the eye do not rub, rubbing may cause abrasions. Flush eyes with copious amounts of water for 15 minutes, occasionally lifting upper and lower eyelids. If adverse effects persist after flushing with water, get medical aid.

SKIN: Wet clothing first to minimize dust generation, then; remove contaminated clothing and shoes. Wash contaminated clothing before wearing again. Wash infected areas with water and soap. Get medical attention in the event of irritation.

INGESTION: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, seek immediate medical attention. If alert, victim should drink up to three glasses of water. Do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If victim is convulsing, maintain an open airway and obtain emergency medical attention.

INHALATION: If dust or particulates are inhaled, Remove from exposure and move to fresh air immediately. Encourage to blow nose to ensure clear breathing passages. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Show this data safety sheet to medical professionals.

SECTION 5: FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Substance is noncombustible, however; the containers may burn, releasing carbon monoxide and carbon dioxide. Use appropriate extinguishing media for the combustible material involved in a fire.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear self-contained breathing apparatus in pressure demand and full protective gear.

FIRE EXTINGUISHING MEDIA: Unless incompatibilities exist for surrounding materials, carbon dioxide, water spray, "ABC" type chemical extinguishers, foam, dry chemical and halon extinguishers can be used to fight fires involving this material.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Finely divided dusts from this material pose a hazard of an air/dust explosion in presence of an ignition source

HAZARDOUS DECOMPOSITION PRODUCTS: If oxidation of this product should occur, heat will be liberated which could cause surrounding combustibles to burn.



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SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Wear appropriate personal protective equipment. Do not allow this material to be released into the environment. Recover the product whenever possible. Avoid generating dust when sweeping or shoveling up. If required, wet the material with water to prevent creating dust. Pick up and place in a suitable container for reclamation or disposal.

Cleanup of Small Spills: Solids should be gently covered with wet absorbent pads. Clean spill with pad and dispose of properly. Decontaminate the spill area (three times) using a bleach and detergent solution and then rinse with clean water.

Large Spills: Restrict access to the spill areas. For spills of greater than 5 g, be sure not to generate dusts by gently covering with damp absorbent sheets, spill-control pads, pillows, cloths, or towels. The dispersion of particles into surrounding air and the possibility of inhalation is a serious matter and should be treated as such. Do not apply chemical in-activators as they may produce hazardous by-products. Sweep up or vacuum spilled solid (an explosion-proof vacuum should be used), avoiding the generation of airborne dusts. Decontaminate the area thoroughly.

All Spills: Use procedures described above and then place all spill residues in an appropriate, labeled container and seal. Move to a secure area. Dispose of in accordance with Federal, State, and local hazardous waste disposal regulations (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: All employees who handle this material should be trained to handle it safely. Open containers slowly on a stable surface. As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing airborne dusts generated by this product. Use in a well-ventilated area. Ensure this product is used with adequate ventilation and personal protective equipment (see Section 8, Exposure Controls and Personal Protection). Avoid airborne dusts generated by this product. Clean work areas routinely to prevent accumulation of dust. Clean up spills promptly.

CONDITIONS FOR SAFE STORAGE: Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10, Stability and Reactivity). Have appropriate extinguishing equipment in the storage area (e.g., sprinkler system, portable fire extinguishers). Keep container tightly closed when not in use. Refer to NFPA 654, *Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids* for additional information on storage.

SPECIFIC END USE(S): These products are used in chalk line devices in construction. Follow all industry standards for use of this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely. Always use this product in areas where adequate ventilation is provided. Decontaminate equipment thoroughly, before maintenance begins. Collect all residue and dispose of according to applicable or applicable federal, state, provincial and local standards.



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limit 8-Hour TWA¹(mg/m³)

Component	CAS No.	% by weight	OSHA PEL	ACGIH TLV	NIOSH REL
Calcium Carbonate (Limestone) (4)	471-34-1; (1317-65-3)	40-60	15(2), 5 (3)	10(2)	10(2), 5(3)
Red Iron Oxide	1317-61-9	40-60	10	5(3)	5
Silica-Crystalline Quartz (4)	14808-60-7	0.1-1.0	10(2,5),3.3(3,5)	0.05(3)	0.05(3)

¹TWA = Time-weighted average

²Total dust.

³Respirable dust.

⁴Calcium carbonate may contain crystalline silica at levels between 0.1 and 1.0 % and varies naturally.

⁵Using the OSHA quartz formula, this PEL was calculated assuming crystalline silica content of 1.0% in this ingredient.

SPECIAL NOTE: The following information is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including U.S. Federal OSHA Respiratory Protection (29 CFR 1910.134), OSHA Eye Protection 29 CFR 1910.133, OSHA Hand Protection 29 CFR 1910.138, OSHA Foot Protection 29 CFR 1910.136 and OSHA Body Protection 29 CFR 1910.132), equivalent standards of Canada (including CSA Respiratory Standard Z94.4-02, Z94.3-M1982, Industrial Eye and Face Protectors and CSA Standard Z195-02, Protective Footwear), or standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection). Please reference applicable regulations and standards for relevant details.

ENGINEERING CONTROLS: Facilities storing or utilizing this material should have potable water available for washing of eyes and skin. Use sufficient general area ventilation. To ensure exposure levels are maintained below the limits provided in this section if applicable.

VENTILATION: Local ventilation should be used.

RESPIRATORY PROTECTION: Maintain airborne contaminant concentrations below exposure limits listed above. For materials without listed exposure limits, minimize respiratory exposure. If necessary, use only respiratory protection authorized under appropriate regulations. Oxygen levels below 20% are considered IDLH by U.S. OSHA. In such atmospheres, use of a full-face piece pressure/demand SCBA or a full face piece, supplied air respirator with auxiliary self-contained air supply is required under U.S. OSHA's Respiratory Protection Standard (1910.134-1998).

EYE PROTECTION: Wear safety goggles/glasses as appropriate for the task if dust or other particulates are present. Face shields maybe recommended if solutions are made. If necessary, refer to appropriate regulations.

SKIN PROTECTION: Use appropriate protective clothing for the task. Full-body protective clothing and gloves are recommended for emergency response procedures. If necessary, refer to the U.S. OSHA Technical Manual (Section VII: Personal Protective Equipment) or other appropriate regulations.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: No information found.

WORK HYGIENIC PRACTICES: Wash contaminated clothing before reuse.

EXPOSURE GUIDELINES: No information found.



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PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		SEE SECTION 8
For Routine Industrial Use and Handling Applications			

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate
3 = Serious 4 = Severe * = Chronic hazard

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Powder – Red Color

ODOR: Odorless

pH AS SUPPLIED: 8.5-9.5 (at 10% solids)

BOILING POINT: No Data Available

MELTING POINT: Decomposes

F: 1517 Deg

C: 825Deg

FREEZING POINT: No Data Available.

VAPOR PRESSURE (mmHg): No Data Available.

VAPOR DENSITY (AIR = 1): No Data Available.

SPECIFIC GRAVITY (H₂O = 1): No Data Available.

EVAPORATION RATE: No Data Available.

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressures.

CONDITIONS TO AVOID (STABILITY): Incompatible materials

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizing agents, acids, aluminum, fluorine, magnesium, peroxides, hydrazine, calcium hypochlorite, performic acid, and bromine pentafluoride.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Carbon monoxide, carbon dioxide, calcium oxide.

HAZARDOUS POLYMERIZATION: Does not occur.



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SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of industrial exposure to this product are by skin or eye contact and inhalation.

INHALATION: If dusts or particulates from these products are inhaled, irritation of the nose, throat, and lungs can occur. Symptoms may include sneezing, coughing, nasal congestion, and difficulty breathing. Symptoms are generally alleviated upon exposure to fresh air. If heated, chronic exposure to concentrations of silicon dioxide fume may cause chronic obstructive lung disease. Inhalation of iron oxide fume or dust is cause of pulmonary roentgen graphic appearance called siderosis, or an accumulation of iron that leads to reduced lung capacity. These products contain Crystalline Silica, which is a known human carcinogen. Chronic inhalation exposure to this material may cause silicosis, pulmonary fibrosis, bronchitis or present a hazard of cancer, due to the presence of Crystalline Silica.

CONTACT WITH SKIN or EYES: Skin contact may cause abrasion, redness, and discomfort. Prolonged and repeated skin exposure may cause dermatitis (dry, red skin). Direct eye contact with these products may cause stinging, abrasions, and redness. Dust can cause mechanical irritation to the eye. Repeated contact of dust with the eyes can cause conjunctivitis a disease that may cause eyes to become pink and sore), or can cause discoloration of the eyes.

SKIN ABSORPTION: This product does not pose a hazard of skin absorption.

INGESTION: Ingestion is an unlikely route of occupational exposure to this product. In the unlikely event that dusts from the product are ingested nausea, vomiting, and diarrhea may result.

Repeated ingestion of iron compounds can cause vomiting, diarrhea, pink urine, black stool, and liver or kidney damage. Repeated ingestion of iron compounds can also cause siderosis, which is an accumulation of iron in tissues.

Chronic: Repeated inhalation exposure of crystalline silica above safe levels may cause adverse effects to the respiratory system. Chronic inhalation may result in pulmonary fibrosis. This product contains crystalline silica, which is a known human carcinogen.

SECTION 11 NOTES: The International Agency for Research on Cancer (IARC) classified (quartz) crystalline silica (cs) as a probable carcinogen and in 1997 reclassified it as a Group 1 carcinogen, i.e., that there was sufficient evidence for carcinogenicity in experimental animals and sufficient evidence for carcinogenicity in humans. In its Ninth Annual Report on Carcinogens, the National Toxicology Program (NTP) listed crystalline silica as a known human carcinogen, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to respirable crystalline silica and increased lung cancer rates in workers exposed to crystalline silica dust. The International Agency for Research on Cancer (IARC) has evaluated crystalline silica and determined that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)."

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Safe practices must be in place to prevent environmental contamination.

SECTION 12 NOTES: These products have not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided.



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SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Waste from residue of this product is NOT hazardous waste according to the EPA regulations. Disposal by landfill may be acceptable. Waste disposal must follow all US Federal, State and Local (EPA) regulations, Canadian and European Governmental Guidelines.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: (DOT) These products are not classified as dangerous goods under the DOT regulations 49CFR: 172.101

WATER TRANSPORTATION: (IMO) Not classified as dangerous

AIR TRANSPORTATION: (ATA) Not classified as dangerous

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

OSHA: Components are listed as air contaminants. Regulation standards -29CFR. Standard number 1910.100 Table 2-1

TSCA (TOXIC SUBSTANCE CONTROL ACT): All components are listed on the TSCA inventory

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): Not Listed

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): The components of this product has been reviewed on the EAP Hazards Categories in section 311-312 and is considered a chronic health risk.

STATE REGULATIONS: California: (Proposition 65) WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm (Silica Crystalline Quartz, CAS Number: 14808-60-7)

CANADA WHIMS: (Workplace Hazardous Materials Information System) This SDS sheet contains all of the information needed by the CPR. (Controlled Products Regulation)

WHIMS CLASSIFICATION D2A: Very toxic (carcinogenicity)

EU CLASSIFICATION, LABELING: This product does meet the definition of hazard class described by the EUROPEAN UNION COUNCIL DIRECTIVE EC# 1272/2008. Classification information for components Crystalline Silica. EU Classification (xn) Harmful EU risk R68/20 harmful: Risk of irreversible damage through inhalation.



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SECTION 16: OTHER INFORMATION

Hazard Ratings:

Hazardous Material Identification System (HMIS): Health 1*, Flammability 0, Reactivity 0*chronic effects

National Fire Protection Association (NFPA): Health 1, Flammability 0, Reactivity 0



The contents and format of this SDS are in accordance with the U.S. Hazard Communication Standard 29 CFR 1910.1200; the Canadian CPR, and Workplace Hazardous Materials Information System (WHMIS); and EEC Commission Directive 1999/45/EC, and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are correct. However, the information is provided without any warranty, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control. For this and other reasons, we do 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 the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

End of document

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Klean Strip Paint Thinner	
Company Name:	W. M. Barr 2105 Channel Avenue Memphis, TN 38113	Phone Number: (901)775-0100
Web site address:	www.wmbarr.com	
Emergency Contact:	3E 24 Hour Emergency Contact	(800)451-8346
Information:	W.M. Barr Customer Service	(800)398-3892
Intended Use:	Paint, stain, and varnish thinning.	
Product Code:	CKPT94402, GKPT94002B, DKPT94403CA, EKPT94401, GKPT94002, GKPT94002P, GKPT94002T, GKPT94400, PA12779, QKPT94003, QKPT94203, GKPT94002HDWS, GKPT94002PT, PKPT94004	

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 3
Acute Toxicity: Inhalation, Category 4
Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 2B
Germ Cell Mutagenicity, Category 1B
Toxic To Reproduction, Category 2
Specific Target Organ Toxicity (single exposure), Category 3
Specific Target Organ Toxicity (repeated exposure), Category 2
Aspiration Toxicity, Category 1



GHS Signal Word:

Danger

GHS Hazard Phrases:

H226: Flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H320: Causes eye irritation.
H332: Harmful if inhaled.
H336: May cause drowsiness or dizziness.
H340: May cause genetic defects.
H361: Suspected of damaging fertility or the unborn child.
H373: May cause damage to Central Nervous System (CNS) through prolonged or repeated exposure.

GHS Precaution Phrases:

P201: Obtain special instructions before use.
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.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe gas/mist/vapors/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P281: Use personal protective equipment as required.

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GHS Response Phrases:

P235: Keep cool.

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P302+352: IF ON SKIN: Wash with plenty of soap and water.

P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+313: IF exposed or concerned: Get medical attention/advice.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P314: Get medical attention/advice if you feel unwell.

P321: Specific treatment see label.

P331: Do NOT induce vomiting.

P332+313: If skin irritation occurs, get medical advice/attention.

P337+313: If eye irritation persists, get medical advice/attention.

P362: Take off contaminated clothing and wash before re-use.

P370+378: In case of fire, use dry chemical powder to extinguish.

P403+233: Store container tightly closed in well-ventilated place.

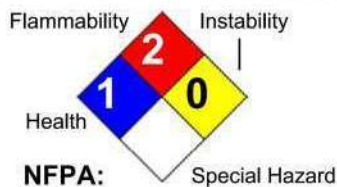
P405: Store locked up.

P501: Dispose of contents/container according to local, state and federal regulations.

GHS Storage and Disposal Phrases:

Hazard Rating System:

HEALTH	*	1
FLAMMABILITY		2
PHYSICAL		0
PPE		



HMIS:

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic):

Inhalation Acute Exposure Effects:

May cause dizziness; headache; watering of eyes; eye irritation; weakness; nausea; muscle twitches, and depression of central nervous system. Severe overexposure may cause convulsions; unconsciousness; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:

May cause irritation; numbness in the fingers and arms; drying of skin; and dermatitis. May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:

Harmful or fatal if swallowed. May cause nausea; weakness; muscle twitches; gastrointestinal irritation; and diarrhea. Severe overexposure may cause convulsions; unconsciousness; and death.

Chronic Exposure Effects:

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause dermatitis. May cause jaundice; bone marrow damage; liver damage; anemia; and skin irritation.

Medical Conditions Generally

Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory

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Aggravated By Exposure: system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	<=95.0 %
25551-13-7	Benzene, Trimethyl-	<=5.0 %

Additional Chemical Information Ingredients vary due to multiple blends and/or raw material suppliers

4. FIRST AID MEASURES

Emergency and First Aid Procedures:	<p>Inhalation: If user experiences breathing difficulty, move to air free of vapors, Administer oxygen or artificial medical assistance can be rendered.</p> <p>Skin Contact: Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.</p> <p>Eye Contact: Flush with large quantities of water for at least 15 minutes and seek immediate medical attention.</p> <p>Ingestion: Do not induce vomiting. Call your local poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.</p> <p>If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.</p>
Signs and Symptoms Of Exposure:	Inhalation, ingestion, and dermal are possible routes of exposure.
Note to Physician:	<p>Call your local poison control center for further information.</p> <p>Inhalation: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation as required.</p> <p>Ingestion: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.</p>

5. FIRE FIGHTING MEASURES

Flammability Classification:	NFPA Class II
Flash Pt:	> 100.00 F
Explosive Limits:	LEL: 0.5 UEL: 6
Autoignition Pt:	No data.
Suitable Extinguishing Media:	Use carbon dioxide, dry chemical powder, or foam.
Fire Fighting Instructions:	Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.
Flammable Properties and Hazards:	Combustible Liquid.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled:	<p>Clean up:</p> <p>Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.</p> <p>Small spills:</p> <p>Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.</p> <p>Large spills:</p> <p>Dike far ahead of spill for later disposal.</p> <p>Waste Disposal:</p> <p>Dispose in accordance with applicable local, state and federal regulations.</p>
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7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	<p>Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.</p> <p>A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters, and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always use proper bonding and grounding procedures.</p>
Precautions To Be Taken in Storing:	<p>Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.</p>

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	PEL: 500 ppm	TLV: 100 ppm	No data.
25551-13-7	Benzene, Trimethyl-	No data.	TLV: 25 ppm	No data.
Respiratory Equipment (Specify Type):	For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.			
Eye Protection:	Safety glasses, goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.			
Protective Gloves:	Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.			
Other Protective Clothing:	Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.			
Engineering Controls (Ventilation etc.):	Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.			
Work/Hygienic/Maintenance Practices:	A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use.			

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	[] Gas [X] Liquid [] Solid
Appearance and Odor:	Water White / Free and Clear
Melting Point:	No data.
Boiling Point:	318.00 F - 385.00 F
Autoignition Pt:	No data.
Flash Pt:	> 100.00 F
Explosive Limits:	LEL: 0.5 UEL: 6
Specific Gravity (Water = 1):	0.78
Vapor Pressure (vs. Air or mm Hg):	0.3 MM HG at 68.0 F
Vapor Density (vs. Air = 1):	5 Air = 1
Evaporation Rate:	No data.
Solubility in Water:	No data.
Solubility Notes:	Very slightly soluble in cold water.
Percent Volatile:	100.0 % by weight.
VOC / Volume:	778.0000 G/L

10. STABILITY AND REACTIVITY

Stability: Unstable [] Stable [X]

Conditions To Avoid - No data available.

Instability:

Incompatibility - Materials To Avoid: Incompatible with strong acids, alkalies, and oxidizers such as liquid chlorine and oxygen.

Hazardous Decomposition or Byproducts: Decomposition may produce carbon monoxide and carbon dioxide.

Possibility of Hazardous Reactions: Will occur [] Will not occur [X]

Conditions To Avoid - No data available.

Hazardous Reactions:

11. TOXICOLOGICAL INFORMATION

Toxicological Information: Refer to section 2 for acute and chronic effects.

CAS# 25551-13-7:

Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H, Moderate.

Result:

Kidney, Ureter, Bladder: Changes in liver weight.

Endocrine: Changes in thymus weight.

Immunological Including Allergic: Decreased immune response.

- "Sbornik Vysledku Toxilogickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,24, 1972

Standard Draize Test, Eyes, Species: Rabbit, 500.0 MG, 24 H, Mild.

Result:

Kidney, Ureter, Bladder: Changes in liver weight.

Kidney, Ureter, Bladder: Changes in bladder weight.

Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

- "Sbornik Vysledku Toxilogickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,24, 1972

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	n.a.	n.a.	n.a.	n.a.
25551-13-7	Benzene, Trimethyl-	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with federal, state, and local regulations.

14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Paint Related Material, Exempt Combustible Liquid per 49 CFR 173.150(f)

DOT Hazard Class:

UN/NA Number:

Additional Transport
Information:

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	No	No	No
25551-13-7	Benzene, Trimethyl-	No	No	No

This material meets the EPA ☒ Yes ☐ No Acute (immediate) Health Hazard
'Hazard Categories' defined ☒ Yes ☐ No Chronic (delayed) Health Hazard
for SARA Title III Sections ☒ Yes ☐ No Fire Hazard
311/312 as indicated: ☐ Yes ☒ No Sudden Release of Pressure Hazard
☐ Yes ☒ No Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
25551-13-7	Benzene, Trimethyl-	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No

Regulatory Information: This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.

16. OTHER INFORMATION

Revision Date: 05/24/2017
Preparer Name: W.M. Barr and Company, Inc. (901)775-0100
Additional Information About This Product: No data available.

Company Policy or Disclaimer: The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.



Product Information Sheet

May be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200.

This standard must be consulted for specific requirements.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Lithium-ion Batteries - Rechargeable

Drawing Number: 58-97-0500

Issue Date: April 2016

Supersedes Date: July 2015

Milwaukee Electric Tool Corporation

13135 West Lisbon Road

Brookfield, Wisconsin USA 53005-2550

www.milwaukeeetool.com

Company Phone Number: 262-781-3600 or

1-800-729-3878

Emergency Contact Number: 1-800-424-9300

Chemtrec: United States only

For International: +1-703-741-5970

SECTION 2: HAZARDS IDENTIFICATION

Health	Environmental	Physical
Eye Irritation: No classified hazards	Acute Toxicity: No classified hazards	Flammable liquid: No classified hazards
Skin Irritation: No classified hazards	Chronic Toxicity: No classified hazards	
Acute Toxicity, Oral: No classified hazards		
Acute Toxicity, Inhalation: No classified hazards		

GHS Label

No applicable labeling

Hazard Statements	Precautionary Statements
No exposure during routine handling of product	

CLASSIFIED HAZARDS

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200. This SDS contains valuable information for the safe handling and proper use of this product. Save this SDS for future reference.

OTHER HAZARDS

Flammable:

Organic components will burn if cell is incinerated. Combustion of cell contents may cause evolution of Hydrogen Fluoride.

Potential Health Effects:

Fluoride interferes with nerve impulse conduction causing severe pain or absence of sensations

WARNING:

No exposure during routine handling of product. Hydrofluoric Acid exposure during firefighting: This information is given for the use of professional fire fighters responding to a warehouse fire where fire from other materials may incinerate batteries. This section is provided solely in case of exposure, during firefighting, to the combustion by-products.

SECTION 3: COMPOSITION /INFORMATION OF INGREDIENTS

Chemical Name	CAS #	Concentration
Aluminum Foil	7429-90-5	0.1 - 10
Biphenyl (BP)	92-52-4	0.1 - 0.3
Copper Foil	7440-50-8	0.1 - 10
Linear & Cyclic Carbonate solvents	N/A	0 - 17
Graphite Powder/Carbon	7440-44-0	10 - 30
Metal Oxide or other Electrolyte (proprietary)	Confidential	10 - 50
Lithium Hexafluorophosphate (LiPF ₆)	21324-40-3	0 - 5
Polyvinylidene Flouride (PVDF)	24937-79-9	0.1 - 5
Styrene Butadiene Rubber (SBR)	N/A	<5
Aluminum, Steel, Nickel and other inert materials	N/A	Remainder

SECTION 4: FIRST AID MEASURES

No exposure during routine handling of product. Risk of exposure occurs only if the battery is mechanically or electrically abused.

No effect under routine handling and use to eyes, skin or if inhaled. Ingestion is not likely, given the physical size and state of the cell. If swallowed, seek medical attention immediately.

If exposure to internal materials within cell due to damaged outer casing the following actions are recommended:

EYE CONTACT:

Flush with water for 15 minutes without rubbing and immediately seek medical attention.

SKIN CONTACT:

Wash area immediately with soap and water. If irritation continues see medical attention.

INHALATION:

Leave area immediately and move to fresh air and seek medical attention.

INGESTION:

If swallowed, contact POISON CONTROL CENTER immediately.

SECTION 5: FIRE FIGHTING MEASURES

NFPA 704 Hazard Class



HMIS



0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

SUITABLE EXTINGUISHING MEDIA:

Water spray, carbon dioxide, dry chemical powder or appropriate foam. Use agent appropriate for surrounding materials.

UNSUITABLE EXTINGUISHING MEDIA:

None.

PRODUCTS OF COMBUSTION:

Organic components will burn if incinerated. Combustion of cell contents may cause evolution of Hydrogen Fluoride. In case of fire in an adjacent area, use water, CO₂, or dry chemical extinguishers if cells are packed in their original containers since the fuel of the fire is basically paper products.

PROTECTION OF FIREFIGHTERS:

Hydrofluoric Acid exposure during firefighting: This information is given for the use of professional fire fighters responding to a warehouse fire where fire from other materials may incinerate batteries. This section is provided solely in case of exposure, during firefighting, to the combustion by-products.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Use standard industrial clothing in normal use. If handling large containers of cells wear steel-toed footwear.

ENVIRONMENTAL PRECAUTIONS:

No special precautions necessary.

METHODS FOR CONTAINMENT:

Transport container outdoors. Hold burned cells and fire cleanup solids for disposal as potential hazardous waste. Unburned cells are not hazardous waste. A fire with over 100 kg of cells burnt will likely require reporting to environmental officials. Always consult and obey all international, federal and local environmental laws.

METHODS FOR CLEAN-UP:

No data available

OTHER INFORMATION:

No data available

SECTION 7: HANDLING AND STORAGE

HANDLING:

Use only approved charging equipment. Do not disassemble battery or battery pack. Do not puncture, crush or dispose of in fire.

STORAGE:

Store in a cool, dry place away from sparks and flame. Keep below 125°C. Keep above -60°C. Charge between 0°C and 45°C.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	OSHA PEL	ACGIH TLV	California Prop 65 Reg. Y/N	IARC/NTP Y/N
Aluminum Foil	TWA 5mg/m ³ *	TWA 5mg/m ³ *	N	N
Biphenyl (BP)	NA	NA	N	N
Copper Foil	NA	NA	N	N
Linear & Cyclic Carbonate solvents	NA	NA	N	N
Graphite Powder/Carbon	NA	NA	N	N
Metal Oxide or other Electrolyte (proprietary)	NA	NA	N	N
Lithium Hexafluorophosphate (LiPF ₆)	NA	NA	N	N

Polyvinylidene Fluoride (PVDF)	NA	NA	N	N
Styrene Butadiene Rubber (SBR)	NA	NA	N	N
Aluminum, Steel, Nickel and other inert materials	NA	NA	N	N

EYE PROTECTION:

Not necessary under conditions of normal use

SKIN PROTECTION:

Not necessary under conditions of normal use

RESPIRATORY PROTECTION:

Not necessary under conditions of normal use

ENGINEERING CONTROLS:

Not necessary under conditions of normal use

GENERAL HYGIENE CONSIDERATIONS:

Not necessary under conditions of normal use

EXPOSURE GUIDELINES:

Not necessary under conditions of normal use

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Data represent typical values and are not intended to be specifications. NA=Not Applicable; ND=Not Determined

Physical state: Solid	Viscosity: NA
Colour: NA	Upper Explosive Limits (vol % in air): NA
Odor: Odorless	Lower Explosive Limits (vol % in air): NA
Odor Threshold: NA	Vapor pressure: NA
pH: NA	Vapor density: NA
Melting/Freezing Point: NA	Relative density: NA
VOC Content: NA	Solubility: NA
Boiling Point: NA	Partition Coefficient: NA
Flash Point: NA	Auto-ignition Temperature: NA
Evaporation Rate: NA	Decomposition Temperature: NA
Specific Gravity: NA	Flammability (solid, gas): Organic components will burn if cell is incinerated

SECTION 10: STABILITY AND REACTIVITY

INCOMPATIBLE MATERIALS:

Water, heat and strong acids.

DECOMPOSITION PRODUCTS MAY INCLUDE:

Hydrogen Fluoride, Phosphorus Oxides, Carbon Monoxide, Carbon Dioxide, Lithium Hydroxide, Manganese Oxides, Aluminum Oxide, possible fluoro-compounds, Carbon soot.

CONDITIONS TO AVOID:

Do not crush, puncture, incinerate, immerse in water or heat over 212°F (100°C). Steel casing slowly dissolves in strong mineral acids.

POLYMERIZATION:

Hazardous polymerization will not occur. Spontaneous decomposition will not occur at normal temperature.

CHEMICAL STABILITY:

This product is stable.

REACTIVITY:

Hazardous polymerization will not occur. Spontaneous decomposition will not occur at normal temperature.

SECTION 11: TOXICOLOGY INFORMATION

LIKELY ROUTES OF EXPOSURE: Inhalation, Eye and Skin contact

Eye contact, skin contact, skin absorption, inhalation only if burned. Hydrofluoric acid is extremely corrosive. Contact with hydrogen fluoride fumes is to be avoided. Permissible exposure limit is 3ppm. In case of contact with hydrogen fluoride fumes, immediately leave the area and seek first aid and emergency medical attention. Symptoms may have delayed onset. Fluoride ions penetrate skin readily causing destruction of deep tissue layers even bone. Fluoride interferes with nerve impulse conduction causing severe pain or absence of sensations. Immediately flush eyes or skin with water for at least 20 minutes to neutralize the acidity and remove some fluoride. Remove and destroy all contaminated clothing and permeable personal possessions. Before re-use, impermeable possessions should be soaked in benzalkonium chloride after washing. Following flushing of the affected areas, an iced aqueous solution of benzalkonium chloride or 2.5% calcium gluconate gel should be applied to react with the fluoride ion. Compresses and wraps may be used for areas where immersion is not practical. Medicated dressing should be changed every 2 minutes. Exposure to hydrofluoric acid fumes sufficient to cause pain requires immediate hospitalization for monitoring for pulmonary edema.

ACUTE SYMPTOMS AND EFFECTS:

Inhalation:	No further toxicological data known
Eye contact:	No further toxicological data known
Skin contact:	No further toxicological data known
Ingestion:	No further toxicological data known

OTHER:

No further data known.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

None in routine handling of product.

TOXICITY:

No data available

PERSISTENCE AND DEGRADABILITY (BIOPERSISTENCY & BIODEGRADABILITY):

None in routine handling of product.

POTENTIAL OF BIOACCUMULATION:

None in routine handling of product.

MOBILITY IN SOIL:

None in routine handling of product.

OTHER ADVERSE EFFECTS:

No data available

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL:

Dispose in accordance with appropriate regulations. Always consult and obey all international, federal, provincial/state and local hazardous waste disposal laws. Some jurisdictions require recycling of this spent product. Battery recycling is encouraged. Lithium ion batteries are safe for disposal in the normal municipal waste stream since they are not defined by the federal government as hazardous waste. However, Lithium ion batteries are recyclable.

This product does not contain mercury, cadmium or Lithium (metal).

DO NOT INCINERATE or subject battery cells to temperatures in excess of 212°F (100°C).

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT HAZARDOUS MATERIAL REGULATIONS (RE: GROUND TRANSPORT)

Proper Shipping Description:

UN3480 Lithium-ion batteries; UN3481 Lithium-ion batteries packed with or contained in equipment; Class 9.

Milwaukee Lithium-ion batteries are to be shipped in compliance with relevant requirements of HMR “49 CFR173.185”.

CANADA TRANSPORT DANGEROUS GOODS (RE: GROUND TRANSPORT)

Proper Shipping Description:

UN3480 Lithium-ion batteries; UN3481 Lithium-ion batteries packed with or contained in equipment; Class 9.

Milwaukee Lithium-ion batteries are to be shipped in compliance with relevant requirements of TDG “Part 2” (Section 2.43), or TDG “Schedule 2” (Special Provision 34), as applicable.

INTERNATIONAL DANGEROUS GOODS REGULATIONS (RE: AIR, SEA, GROUND TRANSPORT)

Proper Shipping Description:

UN3480 Lithium-ion batteries; UN3481 Lithium-ion batteries packed with or contained in equipment; Class 9.

Milwaukee Lithium-ion batteries are to be shipped in compliance with relevant requirements of the following DG Regulations:

- ICAO Technical Instructions or IATA Dangerous Goods Regulations (57th Edition): Packing Instructions 965; 966; 967 (Section I, or Section II, as applicable).
- IMDG Code: Packing Instruction P903, or Special Provision 188, as applicable.
- UN Model Regulations on the Transport of Dangerous Goods: Packing Instruction P903, or Special Provision 188, as applicable.
- UN European Agreements (ADR/RID/ADN): Packing Instruction P903, or Special Provision 188, as applicable.
- Australian Dangerous Goods (ADG): Packing Instruction P903, or Special Provision 188, as applicable.

IMPORTANT: The proper classification, packaging, labeling, marking, and documentation requirements for shipping Lithium-ion batteries is dependent upon whether the particular batteries are:

- a.) Rated at 100 Watt-hours (Wh) or less; or
- b.) Rated at greater than 100Wh.

Generally, Lithium-ion batteries rated 100Wh or less are “excepted” from certain Class 9 DG requirements. Always check compliance of Lithium-ion battery consignments against the current regulations governing the chosen mode of transport. When in doubt, contact the carrier or other trained Dangerous Goods professional to confirm acceptability.

UN 38.3 BATTERY TRANSPORTATION TESTING:

Milwaukee rechargeable Lithium-ion batteries listed in Section 1 have passed the relevant transportation test requirements as described in the *UN Manual of Tests and Criteria*, Part III, section 38.3.

UN 38.3 Test Reports are maintained on file at the corporate headquarters of Milwaukee Electric Tool Corporation located at 13135 W. Lisbon Rd., Brookfield, WI, USA 53005.

SECTION 15: REGULATORY INFORMATION

GLOBAL INVENTORIES

TSCA: United States	See Sec. 14. Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
DSL: Canada	See Sec. 14. Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
ECL: Korea	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
PICCS: Philippines	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
ENCS: Japan	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
AICS: Australia	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
IECS: China	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.
EINECS: European Union	Compliant with, relevant transportation test requirements as described in the UN Manual of Tests & Criteria, Part III, Sub-section 38.3.

SARA 313 Information:

SARA Title III Section 313: This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain regulated levels of any toxic chemical subject to the reporting requirements of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

WHMIS: Canadian Workplace

This product does not contain regulated levels of any toxic chemical subject to the reporting requirements

SECTION 16: OTHER INFORMATION

ABBREVIATIONS:

TSCA	Toxic Substance Control Act
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous
OSHA	Occupational Safety and Health
IARC/NTP	International Agency for Research on Cancer/National Toxicology Program
SARA	Superfund Amendments and Reauthorization Act of 1986
ACGIH	American Conference of Governmental Industrial Hygienists

NIOSH/MSHA National Institute for Occupational Safety Health/
Mine Safety and Health Administration
WHMIS Workplace Hazardous Materials Information System

Prepared by: Milwaukee Electric Tool Corporation

The batteries referenced herein are considered exempt articles and are not subject to the OSHA Hazard Communication Standard; therefore a SDS is not required. This sheet is being provided as a service to our customers.

The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. **MILWAUKEE ELECTRIC TOOL CORPORATION** makes no warranty, expressed or implied, regarding the accuracy of this data or the results to be obtained from the use thereto.

1. Identification

Product identifier Motor Medic Universal Power Steering Fluid with Stop Leak

Other means of identification

SDS number M2713
Part No. M2734, M2732, M2713
Tariff code 2710.19.3040

Recommended use Power Steering Fluid

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name RSC Chemical Solutions
Address 600 Radiator Road
 Indian Trail, NC 28079
 United States
Telephone Customer Service: (704) 821-7643
 Technical: (704) 684-1811
Website www.rscbrands.com
E-mail Not available.
Emergency phone number Emergency Telephone: (303) 623-5716
 Emergency Contact: RMPDC (877-740-5015)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Germ cell mutagenicity Category 1B
 Carcinogenicity Category 1B
 Reproductive toxicity Effects on or via lactation

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
 Hazardous to the aquatic environment, long-term hazard Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May cause genetic defects. May cause cancer. May cause harm to breast-fed children. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid contact during pregnancy/while nursing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response If exposed or concerned: Get medical advice/attention.

Storage Store locked up.

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

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	87.29% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 87.01% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Distillates (petroleum), Hydrotreated Heavy Naphthenic		64742-52-5	80 - < 90
Chloroalkanes (c=14-17)		85535-85-9	< 1
Solvent Naphtha (petroleum), Light Arom.		64742-95-6	< 1
Other components below reportable levels			10 - < 20

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

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	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical 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.
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. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. 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	<p>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. Prevent product from entering drains. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p>

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage**Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide adequate ventilation. Do not breathe mist or vapor. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. 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 Heavy Naphthenic (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3 500 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)	Ceiling	1800 mg/m3	
	STEL	10 mg/m3	Mist.

Biological limit values

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

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.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Use of an impervious apron is recommended.

Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece.

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**

Liquid. Clear.

Physical state

Liquid.

Form

Liquid.

Color

Yellow.

Odor	Naphthenic
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	680 °F (360 °C) estimated
Flash point	> 205.0 °F (> 96.1 °C) Tag Closed Cup
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.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	500 °F (260 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	7.42 lbs/gal
Explosive properties	Not explosive.
Flammability class	Combustible IIIB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	0.04 % estimated
Specific gravity	0.89
VOC (Weight %)	0.04 % 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	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
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 available.
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 sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	May cause genetic defects.
Carcinogenicity	May cause cancer.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Not listed.	
US. National Toxicology Program (NTP) Report on Carcinogens	
Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5) Known To Be Human Carcinogen.	
Reproductive toxicity	May cause harm to breastfed babies.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	Harmful to aquatic life with long lasting effects.
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 instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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	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

DOT	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

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
One or more components are not listed on TSCA.

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

Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern

Chloroalkanes (c=14-17) (CAS 85535-85-9)

Short-Chain Chlorinated Paraffins (SCCPs) and Other Chlorinated Paraffins Action Plan

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

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.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Chloroalkanes (c=14-17) (CAS 85535-85-9)

Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)

Solvent Naphtha (petroleum), Light Arom. (CAS 64742-95-6)

US. Massachusetts RTK - Substance List

Distillates (petroleum), Hydrotreated Heavy Naphthenic (CAS 64742-52-5)

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

Not listed.

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

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

BENZENE,1-METHYLETHYL- (CAS 98-82-8)

Listed: April 6, 2010

NAPHTHALENE (CAS 91-20-3)

Listed: April 19, 2002

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
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)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*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** 05-01-2015**Version #** 01

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



Safety Data Sheet

Conforms to HCS 2012 (29 CFR 1910.1200)

Section 1. Identification

Product identifier

Product Name:	O'REILLY SYNTHETIC DOT 3 BRAKE FLUID
Other names:	Heavy Duty High Temp Formula Synthetic DOT3 Brake Fluid
Part/Product Number(s):	72105-3, 72120, 72126
Material Use:	Automotive brake fluid
Uses advised against:	No information available
Manufacturer:	Omni Specialty Packaging, LLC 10399 Hwy 1 South Shreveport, LA 71115 1-318-524-1100
Issuing date:	July 13, 2015
Revision date:	July 13, 2015
Revision number:	001
Company contact:	OMNI EHS Department; E-Mail: sds@osp.cc ; Contact phone: 318-524-1100 (Monday-Friday, 8:00 AM – 4:00 PM, CST)
<u>In case of emergency:</u>	CHEMTREC: Within USA and Canada: 1 (800) 524-9300 (24/7) CHEMTREC Outside USA and Canada: +1 703-527-3887 (24/7)

Section 2. Hazards Identification

OSHA/HCS Status: This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the Substance or Mixture: Serious Eye Damage/Eye Irritation – Category 1

GHS Label Elements

Hazard pictograms:



Signal word: DANGER

Appearance: Clear

Physical State: Liquid

Odor: Petroleum distillates

Physical Hazard statement: None

Health Hazard statement: Harmful if swallowed.
Causes serious eye damage.

Precautionary statements

General: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention: Wear eye/face protection.
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. Immediately call a POISON CENTER or doctor/physician.

Storage: Store locked up.

Disposal: Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC): No data available.

Other information: No information available.

Section 3. Composition/Information on Ingredients

Automotive brake fluid and additives mixture.

Substance/mixture: Mixture

Components Name	CAS number	Weight %*
Triethylene glycol, monobutyl ether	143-22-6	50-60
Diethylene glycol, monobutyl ether	112-34-5	20-30
Triethylene glycol	112-27-6	10-15

* The exact percentage of composition has been withheld as a trade secret.

Section 4. First Aid Measures

Description of necessary first aid measures

General Advice: No specific first aid measures are required. Get medical attention if irritation develops and persists.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation or allergic reaction develops and persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion: If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a POISON CENTER or doctor/physician if symptoms occur.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

Most Important

Symptoms and Effects: Personnel with pre-existing skin disorders should avoid contact with this product. Under normal use conditions, no adverse effects to health are known.

Eye contact: Causes serious eye irritation. Symptoms may include burning, red eyes and tearing.

Skin contact: Contact with skin is not expected to cause prolonged or significant irritation. Contact with skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

Inhalation: May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficult breathing.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Note to physician: Treat symptomatically.

Section 5. Fire-Fighting Measures

Uniform Fire Code:	Combustible liquid
Flash Point:	203°C (397.4°F)
<u>Extinguishing Media</u>	
Suitable Media:	In case of fire, use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water fog, alcohol resistant foam, dry chemical, carbon dioxide (CO ₂) extinguisher or spray.
Unsuitable Media:	None.
Specific Hazards Arising from the Chemical:	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritation.
Hazardous Combustion Products:	Combustion products may include the following: Carbon dioxide (CO ₂) Carbon monoxide (CO), and trace amounts of Nitrogen oxides.
Protection of 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. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:	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. Put on appropriate personal protective equipment. Floors may be slippery; use care to avoid falling.
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. Do not get in eyes. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. See also the information in "For non-emergency personnel".
Environmental precautions:	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). See Section 12 for ecological information.

Methods and materials for containment and cleaning up

Small Spills:	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large Spills:	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

NOTE: If RQ (Reportable Quantity) is exceeded or if spills enter a body of water, report immediately to the USEPA's National Response Center at (800) 424-8802. Check with your local and state regulators regarding their reporting requirements.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Do not get in eyes. Eye protection and face shield should be used. Put on appropriate
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Advice on general occupational hygiene:

personal protective equipment (see Section 8). Keep out of reach of children.

Do not get in eyes, on skin or on clothing. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. 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 original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, strong oxidizing agents (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use.

Section 8. Exposure Controls/Personal Protection

Control parameters

This product does not have any hazardous materials with occupational exposure limits established by region specific regulatory bodies.

Occupational Exposure Limits

Chemical name	ACGIH		OSHA		NIOSH	
	TLV	STEL	PEL	STEL	TWA	Ceiling
Triethylene glycol, monobutyl ether CAS 143-22-6	None listed	None listed	None listed	None listed	None listed	None listed
Triethylene glycol CAS 112-27-6	None listed	None listed	None listed	None listed	None listed	None listed
Diethylene glycol monobutyl ether CAS 112-34-5	None listed	None listed	None listed	None listed	None listed	None listed

Appropriate engineering controls:

Good general ventilation should be sufficient to control worker exposure to airborne contaminants. Emergency shower and eyewash station.

Environmental exposure controls:
Individual protection measures

None specific.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/Face Protection:

Wear safety glasses with side shields. A face shield and goggles may be necessary under some conditions.

Skin and Body Protection**Hand protection:**

Wear protective gloves if prolonged or repeated contact is likely. Wear chemical resistant gloves. Recommended: Butyl rubber, Neoprene, Nitrile/butadiene rubber (Nitrile or NBR), Polyvinyl chloride ("PVC" or "vinyl"). Consult your supervisor or Standard Operating Procedure (SOP) for special handling instructions.

Body protection:

No protective equipment is needed under normal use conditions. Wear clean body-covering clothing. For non-routine tasks, personal protection equipment for the body should be selected based on the task being performed and the risks involved.

Other skin protection:

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Respiratory protection:

No respiratory protection is normally required.

Section 9. Physical and Chemical Properties

Appearance**Physical State:****(Typical or Target)**

Liquid

Color:	Clear
Odor:	Etheric
Odor threshold:	Not available
pH:	10.5 SUS
Boiling Point:	232.2°C (450°F) (Typical or Target)
Flash Point (Closed cup):	203°C (397.5°F) (Typical or Target)
Evaporation rate (Butyl acetate = 1):	Not available
Flammability (solid, gas):	Not applicable. Based on - Physical state
Flammable) Limit in Air:	Not available
Vapor pressure:	Not available
Vapor density (Air = 1):	>1
Relative density:	1.015 kg/l at 15°C (Typical or Target)
Solubility:	Completely soluble in water
Partition coefficient (n-Octanol/water):	Not available
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity – Kinematic (cSt (mm ² /s) @ 40°C):	Not available
Viscosity – Dynamic (cSt (mm ² /s) @ 100°C):	Not available
VOC %:	0% Not a VOC

Section 10. Stability and Reactivity

Reactivity:	Not reactive under normal storage conditions
Chemical stability:	Stable under normal storage conditions
Possibility of hazardous reactions:	None under normal processing.
Hazardous polymerization:	Hazardous polymerization does not occur.
Conditions to avoid:	None known based on information supplied.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	May include: Fumes, Smoke, Carbon Oxides (including carbon monoxide and carbon dioxide) and incomplete combustion products.

Section 11. Toxicological Information

Information on toxicological effects

Product Information

Inhalation:	May cause irritation of respiratory tract.
Skin Corrosion/Irritation:	May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Serious Eye Damage/Irritation:	Causes serious eye damage.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Triethylene glycol, monobutyl ether	= 5300 mg/kg (Rat)	= 3480 mg/kg (Rabbit)	-
Diethylene glycol, monobutyl ether	= 3384 mg/kg (Rat)	= 2700 mg/kg (Rabbit)	-
Triethylene glycol	= 15000 mg/kg (Rat)	= 22460 mg/kg (Rabbit)	-

Aspiration hazard:	Not expected to be an aspiration hazard.
Skin Sensitization:	No information available.
Respiratory Sensitization:	No information available.
Specific Target Organ Toxicity	
Single Exposure (STOT-SE):	No information available.
Repeated Exposure (STOT-RE):	No information available.
Carcinogenicity:	Contains no ingredients listed as a carcinogen.
Germ Cell Mutagenicity:	No information available.
Reproductive Toxicity	No information available.

Information on Toxicity Effects of Compounds

Symptoms: Eye contact with liquid may cause irritation including stinging, burning, tearing or redness of the eyes.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

Acute Toxicity Estimate (ATEmix) - Oral: 5191 mg/kg (Category 5)

Acute Toxicity Estimate (ATEmix) - Dermal: 3658 mg/kg (Category 5)

Section 12. Ecological Information

The information is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity: The environmental impact of this product has not been fully investigated

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Triethylene glycol, monobutyl ether	EC50 72h: >500 mg/L (Desmodesmus subspicatus)	LC50 96h: 2200-4600 mg/L Static (Leuciscus idus) LC 50 96h: = 2400 mg/L (Pimephales promelas) LC50 96h = 2400 mg/L Static (Pimephales promelas)	Not available	EC50 48h: >500 mg/L (Daphnia magna)
Triethylene glycol	Not available	LC50 96h: = 56200-63700 mg/L flow-through (Pimephales promelas) LC50 96h = 10000 mg/L Static (Leuciscus macrochirus) LC50 96h = 61000 mg/L flow-through (Lepomis macrochirus)	EC50 = 850 mg/L 5 min	EC50 48h: =42426 mg/L (Daphnia magna)
Diethylene glycol monobutyl ether	EC50 72h: >100 mg/L (Desmodesmus subspicatus)	LC50 96h: = 1300 mg/L Static (Leuciscus macrochirus)	Not available	EC50 48h: = 2850 mg/L (Daphnia magna)

Mobility: No information available.

Soil/water partition coefficient (K_{oc}): No information available.

Persistence and degradation

Biodegradation: No information available.

Bioaccumulative potential

Bioaccumulation: No information available.

Other adverse effects: No information available.

Other ecological information: No information available.

Section 13. Disposal Considerations

Disposal recommendations based on material supplied.

Waste Disposal methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). Consult the appropriate state, regional, or local regulations for additional requirements. The generation of waste should be avoided or minimized wherever possible.

Contaminated packaging: Do not re-use empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Other information: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport Information

General information:

	DOT Classification	IMDG	IATA
Brake Fluid DOT 3	Not Regulated	Not Regulated	Not Regulated

Special precautions for user: Transport within user's premises: Always transport in closed containers that are upright and secure

Section 15. Regulatory Information

United States Regulations

United States Inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304: No products were found.

SARA 311/312:

Immediate (Acute) Health Effects:	Yes
Delayed (Chronic) Health Effects:	No
Fire Hazard:	No
Sudden Release of Pressure Hazard:	No
Reactivity Hazard:	No

SARA 313:

The following components of this material are found on the EPCRA 313 list:

Components Name	CAS number	Weight %*	SARA 313 – Threshold Values %
Triethylene glycol, monobutyl ether	143-22-6	50-60	1.0
Diethylene glycol monobutyl ether	112-34-5	20-30	1.0

CWA (Clean Water Act): This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA: This material, as supplied, does not contain any substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

State Regulations

Massachusetts:

None of the components are at or above regulated thresholds.

New Jersey:

None of the components are at or above regulated thresholds.

Illinois:

Triethylene glycol monobutyl ether, Diethylene glycol monobutyl ether,

Pennsylvania:

Triethylene glycol monobutyl ether, Diethylene glycol monobutyl ether, Triethylene glycol

Rhode Island:

Triethylene glycol

California Proposition 65:

WARNING: This product contains a chemical known to the State of California to cause cancer. None.

Canada

WHMIS Hazard Class: B3 – Combustible liquid

International Chemical Inventories:

All components comply with the following chemical inventory requirements: DSL (Canada)

Section 16. Other Information

NFPA Rating:	Health Hazard – 2	Flammability – 1	Instability/Reactivity – 0	
HMIS Rating:	Health Hazard – 2	Flammability – 1	Physical Hazards – 0	PPE - B

(NFPA & HMIS Hazard Rating Key: 0 - Minimum Hazard; 1 - Slight Hazard; 2 - Moderate Hazard; 3 - High Hazard; 4 - Extreme Hazard; * - Chronic Hazard Indicator, & PPE - Personal Protective Equipment Index A to L. These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS or Hazardous Material Identification System).

Key to abbreviations:

OSHA = Occupational Safety and Health Administration

ACGIH = American Conference of Industrial Hygienists

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service Registry Number

cSt = Centistroke (mm²/s)

LogPow = logarithm of the octanol/water partition coefficient

OEL = Occupational Exposure Limit

SDS = Safety Data Sheet

STEL = Short term exposure Limit

UN = United Nations

UN Number = United Nations Number, a four digit number

GHS = Global Harmonized System of Classification and Labeling
Of Chemicals.

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

assigned by the United Nations Committee of Experts on
the Transportation of Dangerous Goods

Prepared By: OMNI Specialty Packaging EH&S Department

Revision Date: July 15, 2015

Status: Final

Revision Note: Revision #001 of the OSHA GHS SDS format.

Consumer Product Improvement Act of 2008, General Conformity Certification

For Consumer Product Packages: This product has been evaluated and is certified to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission. Where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No testing is required to certify compliance with the provisions. The date of the manufacturing is stamped on the product container.

Disclaimer

All reasonably practicable steps have been taken to ensure the information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This information is furnished upon condition that the person receiving it shall make their own determination of the suitability of the material for their particular purpose.

End of Safety Data Sheet



SDS504
CUSTOM BRAND ANTIFREEZE/COOLANT PREMIX

Date Prepared: 03/07/18

SAFETY DATA SHEET

O'Reilly's Universal
Antifreeze - & Coolant
50/50 yellow

1. Product And Company Identification

SDS ID: SDS504
PRODUCT NAME: Custom Brand Antifreeze/Coolant Premix
PRODUCT NUMBER: Custom Brand AF/C, Prime (USA), Celsius (Canada), 88862640, 16710, 2-90219-061, MJAX53, ALB50-50, 2-90219-061-ARG, NZ956KGRTU, BEST50, 11576, 19288565/F, 19286315/F, Orelly6-50/1F, SPECTRUM50/F, 540721, 19841, ANT401, ANT455, FVPMV50/50, RTU55EXT/F, 4259/F, AF3100/F, AF3155/F, AF3100-1KL/F, AF3100BULK, MJAX53/F, 4259/F, 87221/F, BEST50/F, RTU1EXT/F, RTU1EXT/F1, RTU55EXT/F, ST4053/F, FVPMV-GAL/F, MV-55GAL/F, GTC5050/F, 984/F, 19841/F, SUPER50-50/F, 540721/F, 000367/F, UAFPD/F, UAFPD55/F, SPA56706/F, 1080302-55/F, 1080205/F
FORMULA NUMBER: YA-956G-P50, YA-956G-P50-B, YA-956CB-P50, YA-956KG-P50, YA-956CB-P50-B, YA-956KG-P50-B

MANUFACTURER:
Prestone Products
Corporation
69 Eagle Rd.
Danbury, CT 06810

CANADIAN OFFICE:
Prestone Canada
33 MacIntosh Blvd.
Concord, ON L4K 4L5

MEXICO OFFICE:
ASG Operations Mexico S. de R.L. de C.V.
Carretera Mexico Cuautitlan, Kilometro 31.5, Nave
Industrial 5,
Loma Bonita, Cuautitlan, Mexico, 54800

MEDICAL EMERGENCIES AND ALL OTHER INFORMATION PHONE NUMBER:

(888)269-0750 (in the US and Canada)

01-800-715-4135 (in Mexico)

TRANSPORTATION EMERGENCY PHONE NUMBER (Chemical Spills and Transport Accidents only):

CHEMTREC 1-800-424-9300 (in the US and Canada) +1 703 741-5970 (outside the US and Canada)

PRODUCT USE: Automobile antifreeze – consumer product

RESTRICTIONS ON USE: None identified

2. Hazards Identification

GHS/HAZCOM 2012 Classification:

Health	Physical
Acute Toxicity Category 4 Specific Target Organ Toxicity – Repeated Exposure Category 2 Toxic to Reproduction Category 2	Not Hazardous

Label Elements



WARNING!

H302 Harmful if swallowed.

H361d Suspected of damaging the unborn child.

H373 May cause damage to kidneys through prolonged or repeated exposure.

**Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapors.
P264 Wash exposed skin thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P280 Wear protective gloves and eye protection.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.
P330 Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice.

Disposal:

P405 Store locked up.
P501 Dispose of contents and container in accordance with local and national regulations.

3. Composition/Information On Ingredients

Component	CAS No.	Amount
Ethylene Glycol	107-21-1	30-60%
Water	7732-18-5	30-60%
Diethylene Glycol	111-46-6	0-5%
2-Ethyl Hexanoic Acid, Sodium Salt	19766-89-3	1-5%

The exact concentrations are a trade secret.

4. First Aid Measures

INHALATION: Remove the victim to fresh air. If breathing has stopped administer artificial respiration. If breathing is difficult, have medical personnel administer oxygen. Get medical attention.

SKIN CONTACT: Remove contaminated clothing. Immediately wash contacted area thoroughly with soap and water. If irritation persists, get medical attention.

EYE CONTACT: Immediately flush eyes with large amounts of water for 15 minutes. Get medical attention if irritation persists.

INGESTION: Seek immediate medical attention. Immediately call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.

MOST IMPORTANT SYMPTOMS: May cause eye irritation. Inhalation of mists may cause nose and throat irritation and nervous system effects. Ingestion may cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED: Seek immediate medical attention for large ingestions.

NOTES TO PHYSICIAN: The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning. Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.



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Date Prepared: 03/07/18

Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required. 4-Methyl pyrazole (Fomepizole®), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Fomepizole® is easier to use clinically than ethanol, does not cause CNS depression or hypoglycemia and requires less monitoring than ethanol. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center.

5. Firefighting Measures

SUITABLE EXTINGUISHING MEDIA: Use any media appropriate for the surrounding fire.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL: A solid stream of water or foam directed into hot, burning liquid can cause frothing. Burning may produce carbon monoxide and carbon dioxide.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS: Do not spray pool fires directly. Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

6: Accidental Release Measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Wear appropriate protective clothing and equipment (See Section 8).

METHODS AND MATERIALS FOR CONTAINMENT/CLEANUP: Collect with absorbent material and place in appropriate, labeled container for disposal or, if permitted flush spill area with water.

7. Handling and Storage

PRECAUTIONS FOR SAFE HANDLING:

Harmful or Fatal if Swallowed. Do not drink antifreeze or solution. Avoid eye and prolonged or repeated skin contact. Avoid breathing vapors or mists. Wash exposed skin thoroughly with soap and water after use. Do not store in opened or unlabeled containers. Keep container away from open flames and excessive heat. Do not reuse empty containers unless properly cleaned.

Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty.

Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without any obvious ignition sources. Published "autoignition" or "ignition" temperatures cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Use of this product in elevated temperature applications should be thoroughly evaluated to assure safe operating conditions.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store away from excessive heat and oxidizers.

NFPA CLASSIFICATION: IIIB (May qualify for the following consumer quantity exemption: Consumer products that contain not more than 50 percent by volume of water-miscible flammable or combustible liquids, with the remainder of the product consisting of components that do not burn and where packaged in individual containers that do not exceed 1.3 gal (5 L) capacity.)



8. Exposure Controls / Personal Protection

EXPOSURE GUIDELINES

CHEMICAL	EXPOSURE LIMIT
Ethylene Glycol	25 ppm TWA, 50 ppm STEL ACGIH TLV (as vapor) 10 mg/m ³ TWA ACGIH TLV (as inhalable fraction of the aerosol)
Diethylene Glycol	10 mg/m ³ TWA AIHA WEEL
2-Ethyl Hexanoic Acid	None Established

APPROPRIATE ENGINEERING CONTROLS: Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: For operations where the TLV is exceeded a NIOSH approved respirator with organic vapor cartridges and dust/mist prefilters or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

GLOVES: Chemical resistant gloves such as neoprene or PVC where contact is possible.

EYE PROTECTION: Splash-proof goggles.

OTHER PROTECTIVE EQUIPMENT/CLOTHING: Appropriate protective clothing as needed to minimize skin contact.

9. Physical and Chemical Properties

APPEARANCE:	Green or yellow liquid	ODOR:	Characteristic odor
ODOR THRESHOLD:	Not determined	pH:	9.0
MELTING/FREEZING POINT:	-36°F (-38°C)	BOILING POINT/RANGE:	228°F (109°C)
FLASH POINT:	> 220°F (>104.4°C) (TOC)	EVAPORATION RATE:	Not determined
FLAMMABILITY (SOLID, GAS)	Not Applicable	FLAMMABILITY LIMITS:	LEL: Not determined UEL: Not determined
VAPOR PRESSURE:	< 0.1 mmHg @68°F	VAPOR DENSITY:	Not determined
RELATIVE DENSITY:	1.07	SOLUBILITIES	Water: Complete
PARTITION COEFFICIENT (n-octanol/water)	Not determined	AUTOIGNITION TEMPERATURE:	Not determined
DECOMPOSITION TEMPERATURE:	Not determined	VISCOSITY:	Not determined

10. Stability and Reactivity

REACTIVITY: Normally unreactive

CHEMICAL STABILITY: Stable

POSSIBILITY OF HAZARDOUS REACTIONS: Reaction with strong oxidizers will generate heat.

CONDITIONS TO AVOID: None known



INCOMPATIBLE MATERIALS: Avoid strong bases at high temperatures, strong acids, strong oxidizing agents, and materials reactive with hydroxyl compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide.

11. Toxicological Information

POTENTIAL HEALTH EFFECTS:

ACUTE HAZARDS:

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness and irregular eye movements.

SKIN CONTACT: No evidence of adverse effects from available information.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

CHRONIC EFFECTS: Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined. 2-Ethyl Hexanoic Acid, Sodium Salt is suspected of causing developmental effects based on animal data.

CARCINOGENICITY LISTING: None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, or OSHA.

ACUTE TOXICITY VALUES:

Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg
LD50 Skin Rabbit: 9530 mg/kg

Diethylene Glycol: LD50 Oral Rat: 12,565 mg/kg
LD50 Skin Rabbit: 11,890 mg/kg

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m³ for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1,000 and 2,500 mg/m³) and developmental toxicity in with minimal evidence of teratogenicity (2,500 mg/m³). The no-effects concentration (based on maternal toxicity) was 500 mg/m³. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an



animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity; exposure to high aerosol concentration is only minimally effective in producing developmental toxicity; the major route for producing developmental toxicity is perorally.

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous invitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

In a study of Wistar rats, adverse developmental results were reported at a dose of 100 mg / kg of body weight for 2-Ethyl Hexanoic Acid, Sodium Salt.

12. Ecological Information

ECOTOXICITY:

Ethylene Glycol: LC50 Fathead Minnow <10,000 mg/L/96 hr
EC50 Daphnia Magna 100,000 mg/L/48 hr
Bacterial (Pseudomonas putida): 10,000 mg/l
Protozoa (Entosiphon sulcatum and Uronema parduczi; Chatton-Lwoff) : >10,000 mg/l
Algae (Microcystis aeruginosa): 2,000 mg/l
Green algae (Scenedesmus quadricauda) : >10,000 mg/l
Diethylene Glycol: LC50 western mosquitofish >32,000 mg/L/96 hr

PERSISTENCE AND DEGRADABILITY: Ethylene Glycol is readily biodegradable (97-100% in 2-12 days). Diethylene glycol is readily biodegradable (>70% in 19 days).

BIOACCUMULATIVE POTENTIAL:

Ethylene glycol: A BCF of 10, reported for ethylene glycol in fish, Golden ide (*Leuciscus idus melanotus*), after 3 days of exposure suggests the potential for bioconcentration in aquatic organisms is low.
Diethylene glycol: An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.

MOBILITY IN SOIL: Ethylene glycol and diethylene glycol are highly mobile in soil.

OTHER ADVERSE EFFECTS: None known

13. Disposal Considerations

Dispose of product in accordance with all local, state/provincial and federal regulations.

14. Transport Information

U.S. DOT HAZARD CLASSIFICATION: Not Regulated (unless package contains a reportable quantity)

Note: IF A SHIPMENT OF A REPORTABLE QUANTITY (8,333 LBS/933 GAL.) IN A SINGLE PACKAGE IS INVOLVED, THE FOLLOWING INFORMATION APPLIES:

PROPER SHIPPING NAME: RQ, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)
UN NUMBER: UN3082
PACKING GROUP: III
LABELS REQUIRED: Class 9

DOT MARINE POLLUTANTS: This product does not contain Marine Pollutants as defined in 49 CFR 171.8.



IMDG CODE SHIPPING CLASSIFICATION: Not Regulated

CANADIAN TDG CLASSIFICATION: Not Regulated

15. Regulatory Information

EPA SARA 311/312 HAZARD CLASSIFICATION: Acute health, chronic health

EPA SARA 313: This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Ethylene Glycol	107-21-1	30-60%
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PROTECTION OF STRATOSPHERIC OZONE: This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.

CERCLA SECTION 103: Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for this product, based on the RQ for Ethylene Glycol (60% maximum) of 5,000 lbs., is 8,333 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

CALIFORNIA PROPOSITION 65: This product contains the following chemicals regulated under California Proposition 65:

Ethylene Glycol	107-21-1	30-60%	developmental
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EPA TSCA INVENTORY: All of the components of this material are listed on or exempt from the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the components are listed on or exempt from the Canadian Domestic Substances List.

EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS): All of the components are listed on or exempt from the EINECS inventory.

AUSTRALIA: All of the components of this product are listed on or exempt from the Australian Inventory of Chemical Substances. The sodium salt of 2-ethylhexanoic acid is not listed on the chemical inventory however, it is a reaction by product of the neutralization of antifreeze and therefore is exempt.

JAPAN: All of the components of this product are listed on or exempt from the Japanese Existing and New Chemical Substances (MITI) List.

CHINA: All of the components of this product are listed on or exempt from the Inventory of Existing Chemical Substance in China (IECSC).

KOREA: All of the components of this product are listed on or exempt from the Korean Existing Chemical List (KECL).

PHILIPPINES: All of the components of this product are listed on or exempt from the Philippine Inventory of Chemical and Chemical Substance (PICCS)

16. Other Information

NFPA RATING (NFPA 704) - FIRE: 1 HEALTH: 2 INSTABILITY: 0



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Date Prepared: 03/07/18

REVISION SUMMARY: Section 1 Product Code, Company Name, Section 3 Percentage, Section 8: Ethylene Glycol OEL, Section 15 SARA 313, California Proposition 65

SDS Date of Preparation/Revision: March 7, 2017

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