



SAFETY DATA SHEETS/GHS:

Job # _____ Job Name _____

SDS/GHS TABLE OF CONTENTS

POISON CONTROL: 1-800-222-1222

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ARTICLE INFORMATION SHEET

This Article Information Sheet (AIS) provides relevant battery information to retailers, consumers, OEMs and other users requesting a GHS-compliant SDS. Articles, such as batteries, are exempt from GHS SDS classification criteria. The GHS criteria is not designed or intended to be used to classify the physical, health and environmental hazards of an article. Branded consumer batteries are defined as electro-technical devices. The design, safety, manufacture, and qualification of Energizer and Rayovac branded consumer batteries follow ANSI and IEC battery standards.

SECTION 1 - DOCUMENT INFORMATION

Product Name: Eveready / Energizer Battery / Rayovac

Document Number: 1019-Alk

Chemical System: Alkaline Manganese Dioxide-Zinc

Date Prepared: October 2019

Designed for Recharge: No

Valid Until: October 2022

Prepared by: Energizer

SECTION 2 – COMPANY INFORMATION

Energizer Brands, LLC
533 Maryville University Drive
St. Louis, MO 63141

Email for Information:
energizer@custhelp.com
www.energizer.com

SECTION 3 – ARTICLE INFORMATION

Description	Alkaline Manganese Dioxide-Zinc Battery
Use	Portable power source
Brand	ENERGIZER, EVEREADY, RAYOVAC
IEC Designation	Included but not limited to: LR8D425, LR03, LR6, LR14, LR20, 6LR61, LR1, 4LR25Y, 6LF22
Sizes	Included but not limited to: AAAA, AAA, AA, C, D, 9V, N, Lantern
Image	

Article Information Sheet

SECTION 4 – ARTICLE CONSTRUCTION

IMPORTANT NOTE: The battery should not be opened or burned. Exposure to the ingredients contained within or their combustion products could be harmful.

MATERIAL OR INGREDIENT	PEL (OSHA)	TLV (ACGIH)	%/wt.
Graphite (CAS# 7782-42-5)	15 mg/m ³ TWA (total dust) 5 mg/m ³ TWA (respirable fraction)	2 mg/m ³ TWA (respirable fraction)	2-6
Manganese Dioxide (CAS# 1313-13-9)	5 mg/m ³ Ceiling (as Mn)	0.2 mg/m ³ TWA (as Mn)	30-45
Potassium Hydroxide (CAS# 1310-58-3)	None established	2 mg/m ³ Ceiling	4-8
Zinc (CAS# 7440-66-6)	15 mg/m ³ TWA PNOR* (total dust) 5 mg/m ³ TWA PNOR* (respirable fraction)	10 mg/m ³ TWA PNOC** (inhalable particulate) 3 mg/m ³ TWA PNOC** (respirable particulate)	12-25
Non-Hazardous Components Steel (iron CAS# 65997-19-5 Water, Paper, Plastic and Other	None established None established	None established None established	18-22 Balance

* PNOR: Particulates not otherwise regulated

**PNOC: Particulates not otherwise classified

All Energizer Alkaline Manganese Dioxide-Zinc have zero added mercury.

Applicable Battery Industry Standards

North America Standards	ANSI C18.1M Part 1	ANSI C18.1M Part 2	ANSI C18.4
International Standards	IEC 60086-1	IEC 60086-2	IEC 60086-5

SECTION 5 – HEALTH AND SAFETY

Ingestion: Do not induce vomiting or give food or drink. Seek medical attention immediately. CALL NATIONAL BATTERY INGESTION HOTLINE for advice and follow-up (202-625-3333) collect day or night.

The following instructions apply to exposure of internal components.

Inhalation: Provide fresh air and seek medical attention.

Skin Contact: Remove contaminated clothing and wash skin with soap and water. If a chemical burn occurs or if irritation persists, seek medical attention.

Eye Contact: Immediately flush eyes thoroughly with water for at least 15 minutes, lifting upper and lower lids, until no evidence of the chemical remains. Seek medical attention.

SECTION 6 – FIRE HAZARD & FIREFIGHTING

In case of fire, it is permissible to use any class of extinguishing medium on these batteries or their packing material. Cool exterior of batteries if exposed to fire to prevent rupture.

Fire fighters should wear self-contained breathing apparatus.

SECTION 7 - HANDLING AND STORAGE

Storage: Store in a cool, well ventilated area. Elevated temperatures can result in shortened battery life.

Mechanical Containment: Designers of any water or air-tight device should be aware of the normal evolution of hydrogen gas from alkaline batteries. This gas must be either absorbed or allowed to escape to avoid a potential safety issue.

Handling: Accidental short circuit for a few seconds will not seriously affect the battery. Prolonged short circuit will cause the battery to lose energy through heating, and can cause the safety release vent to open. Sources of short circuits include jumbled batteries in bulk containers, metal jewelry, metal covered tables or metal belts used for assembly of batteries into devices.

Soldering directly to a battery is not recommended. If welding to the battery is required, consult your Energizer sales representative for proper precautions to prevent seal damage or short circuit.

Charging: This battery is manufactured in a charged state. It is not designed for recharging. Recharging can cause battery leakage or, in some cases, high pressure rupture. Inadvertent charging can occur if a battery is installed backwards.

Labeling: The label acts as an electrical insulation for the battery can. Damage to the label can increase the potential for a short circuit.

WARNING: Do not install backwards, charge, put in fire, or mix with other battery types as it may explode or leak causing injury.
Replace all batteries at the same time.

SECTION 8 – DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state and local regulations. Appropriate disposal technologies include incineration and land filling.

SECTION 9 – TRANSPORT INFORMATION

In general, all batteries in all forms of transportation (ground, air, or ocean) must be packaged in a safe and responsible manner. Regulatory concerns from all agencies for safe packaging require that batteries be packaged in a manner that prevents short circuits and be contained in "strong outer packaging" that prevents spillage of contents. All original packaging for Energizer alkaline batteries has been designed to be compliant with these regulatory concerns.

Alkaline batteries (sometimes referred to as "Dry cell" batteries) are not listed as dangerous goods under the ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road, the IMDG International Maritime Dangerous Goods Code, UN Dangerous Good Regulations, IATA Dangerous Goods Regulations, ICAO Technical Instructions and the U.S. hazardous materials regulations (49 CFR). These batteries are not subject to the dangerous goods regulations provided they meet the requirements contained in the following special provisions.

Regulatory Body	Special Provisions
ADR	Not regulated
IMDG	Not regulated
UN	Not regulated
US DOT	49 CFR 172.102 Provision 130
IATA	A123
ICAO	Not regulated

All Energizer alkaline batteries are packed in such a way to prevent short circuits or the generation dangerous quantities of heat and meet the special provisions listed above. In addition, the IATA Dangerous Goods Regulations and ICAO Technical Instructions require the words "not restricted" and the Special Provision number A123 be provided on the air waybill, when an air waybill is issued.

For emergency information call ChemTel 1-800-526-4727 (North America) or 1-314-985-1511 (International).

SECTION 10 – REGULATORY INFORMATION

10A Battery

1. **SARA/TITLE III:** As an article, this battery and its contents are not subject to the requirements of the Emergency Planning and Community Right-To-Know Act.
2. **USA EPA Mercury Containing & Rechargeable Battery Management Act of 1996:** No mercury added
3. **EU Battery Directive 2006/66/EC Amended 2013/56/EU:** Energizer batteries are compliant with all aspects of the Directive

10B General

1. **CPSIA 2008:** Exempt
2. **US CPSC FHSA (16 CFR 1500):** Not applicable since batteries are defined as articles
3. **USA EPA TSCA (40 CFR 707.20):** Not applicable since batteries are defined as articles
4. **USA EPA RCRA (40 CFR 261):** Classified as non-hazardous waste per ignitable, corrosive, reactive or toxicity testing
5. **California Prop 65:** No warning required
6. **DTSC Perchlorate labeling:** No warning required
7. **EU REACH SVHC:** No REACH listed substances of very high concern are present above 0.01% w/w

10C Article Definitions

1. **OSHA Hazard Communication Standard, Section 1910.1200(c)**

SECTION 11 – GHS OTHER INFORMATION

None

Acronym Glossary

[ANSI](#): American National Standards Institute
[CPSC](#): Consumer Product Safety Commission
[CPSIA](#): Consumer Product Safety Improvement Act
[DTSC](#): Department of Toxic Substances Control
[EPA](#): Environmental Protection Agency
[FHSA](#): Federal Hazardous Substances Act
[GHS](#): Globally Harmonized System for Hazard Communication
[IEC](#): International Electrotechnical Commission
[OSHA](#): Occupational Safety and Health Administration
[RCRA](#): Resource Conservation and Recovery Act
[SDS](#): Safety Data Sheet
[SVHC](#): Substances of Very high Concern
[TSCA](#): Toxic Substances Control Act

Energizer has prepared copyrighted Article Information Sheets to provide information on the different Eveready/Energizer/Rayovac battery systems. Batteries are articles as defined under the GHS and exempt from GHS classification criteria (Section 1.3.2.1.1 of the GHS). The information and recommendations set forth herein are made in good faith, for information only, and are believed to be accurate as of the date of preparation. However, ENERGIZER BRANDS, LLC MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS INFORMATION AND DISCLAIMS ALL LIABILITY FROM REFERENCE ON IT.



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: January 2018
	Supersedes Date: April 2016
Milwaukee Electric Tool Corporation	Company Phone Number: 262-781-3600 or 1-800-729-3878
13135 West Lisbon Road	
Brookfield, Wisconsin USA 53005-2550	Emergency Contact Number: 1-800-424-9300
www.milwaukeetool.com	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 Flouride (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 (59th 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
- IMDGInternational Maritime Dangerous
- OSHAOccupational Safety and Health
- IARC/NTP.....International Agency for Research on Cancer/National Toxicology Program
- SARASuperfund Amendments and Reauthorization Act of 1986
- ACGIHAmerican Conference of Governmental Industrial Hygienists

NIOSH/MSHANational Institute for Occupational Safety Health/
Mine Safety and Health Administration
WHMISWorkplace 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: LITHIUM ION BATTERIES and LITHIUM ION POLYMER BATTERIES

Common Name: Lithium Ion Batteries and Lithium Ion Polymer Batteries

Synonyms: Li-Ion Batteries, Li-Ion Secondary Batteries, Li-Ion Rechargeable Batteries

Recommended Use: Energy source for electronic device

Manufacturer:

Motorola Mobility LLC
222 Merchandise Mart Plaza, Suite 1800
Chicago, IL 60654 USA
Phone: 1-847-523-5000

2. Hazard(s) Identification

Hazard Classification	Batteries are considered "articles" under 29 CFR 1910.1200(c) and are not subject to the 29 CFR 1910.1200 OSHA requirements, Canadian WHMIS requirements or GHS requirements.
Hazard / Caution Statement	WARNING – Batteries may explode in a fire.
Precautionary statement	To prevent exposure to internal contents and potentially hazardous materials, do not open, disassemble, crush, burn, expose to high temperatures (> 60°C or 140°F), or subject to other types of abuse.

3. Composition / Information on Ingredients

Li-ion cells are composed of the following major ingredients:

Cell component	Common chemical name / General name	CAS number	Concentration range
Positive electrode	Lithiated cobalt oxides, Lithiated manganese oxides, and/or Proprietary lithiated metal oxides	12190-79-3 12057-17-9 N/A	20-40%
Negative electrode	Graphite	7782-42-5	10-20%
Binders	Polyvinylidene difluoride and/or polytetrafluoroethylene	24937-79-9 9002-84-0	0-3%
Electrolyte salt	Lithium salt (one or more of lithium hexafluorophosphate and lithium tetrafluoroborate)	21324-40-3 14283-07-9	1-5%
Electrolyte solvent	Organic solvents including one or more of the following: ethylene carbonate, diethylcarbonate, dimethylcarbonate, ethylmethylcarbonate, and propylene carbonate.	96-49-1 105-58-8 616-38-6 623-53-0 108-32-7	5-20%
Other components	Copper	7440-50-8	5-10%
	Aluminum	7429-90-5	5-40%
	Nickel	7440-02-0	0-5%
	Polyethylene and/or polypropylene	9002-88-4 9003-07-0	1-3%

As manufactured, Li-ion cells do not contain lithium metal.

4. First-Aid Measures

Batteries do not present a health hazard under normal use and handling. First-aid measures in the event of exposure to internal cell contents are:

Inhalation	Avoid inhaling any vented gases. Remove to fresh air immediately. If breathing is difficult, seek emergency medical attention.
Eyes and Skin	Eyes: May cause eye irritation. Rinse with running water for at least 15 minutes and seek medical attention. Skin: May cause skin irritation. Wash with running water for at least 15 minutes.
Ingestion	Ingestion of battery chemicals can be harmful. Drink milk/water and induce vomiting. Seek medical attention.

5. Fire-Fighting Measures

Fires involving these types of battery packs should be flooded with water or use CO₂, foam, or dry chemical extinguishing media. Fires involving large quantities of batteries may produce toxic, corrosive, or irritating fumes including HF.

6. Accidental Release Measures

If batteries are spilled and damaged, they should be disposed of according to the disposal section.

7. Handling and Storage

The battery pack and enclosed cells should not be opened, disassembled, crushed, burned, or exposed to high temperatures (> 60°C or 140°F).

8. Exposure Controls / Personal Protection

No personal protection is required during normal handling and use. Exposure to the ingredients contained within the cells within the battery pack could be harmful under some circumstances. In case of exposure to cell contents, wash affected area for at least 15 minutes with generous amounts of water and seek medical attention.

9. Physical and Chemical Properties

These batteries are solid articles. Properties such as odor, pH, vapor pressure, solubility, etc. are not applicable.

10. Stability and Reactivity

Reactivity	None during normal handling and use
Incompatibility	None during normal handling and use
Hazardous Decomposition Products	None during normal handling and use
Conditions to Avoid	The battery pack and enclosed cells should not be opened, disassembled, crushed, burned, or exposed to high temperatures.

11. Toxicological Information

There are no known toxicological properties of the batteries during normal handling and use.

12. Ecological Information

There are no known ecological risks of the batteries during normal handling and use.

13. Disposal Considerations

Batteries contain recyclable materials. Recycling options available in your local area should be considered when disposing of this product. Do not dispose of in fire.

14. Transport Information

Batteries comply with all applicable shipping regulations as prescribed by industry and legal standards.

Batteries are less than 100 Watt-hours and meet the requirements for transportation under:

- 1) International Civil Aviation Organization (ICAO) Technical Instructions and the International Air Transport Association (IATA) Dangerous Goods Regulations (58th Edition 2017) Packing Instructions 965 Section IB or Section II (UN 3480, batteries), 966 Section II (UN 3481, batteries packed with equipment), and 967 Section II (UN 3481, batteries contained in equipment);
- 2) International Maritime Organization (IMO) Special Provisions 188 and 230;
- 3) U.S. Department of Transportation (DOT) 49 CFR 173.185.

These products are tested, packaged and labeled in accordance with all applicable requirements as outlined in these transportation regulations. Batteries are tested in accordance with the *UN Manual of Tests and Criteria*, Part III, Subsection 38.3.

For transportation emergencies involving Motorola Mobility battery products, call CHEMTREC at 1-800-424-9300.

15. Regulatory Information

The products referenced herein are "articles" under 29 CFR 1910.1200(c) and are not subject to OSHA's requirements for safety data sheets under its Hazard Communication Standard, 29 CFR 1910.1200.

16. Other Information

Notice: The information and recommendations set forth are made in good faith and are believed to be accurate at the date of preparation. Motorola Mobility makes no warranty expressed or implied with respect to this information and recommendations and disclaims all liability from reliance on it. "Equivalent lithium content" information is available from the manufacturer.

Issue Date: 2017-01-12



Article Information Sheet

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This Article Information Sheet is provided as a courtesy in response to a customer request. A Safety Data Sheet (SDS) has not been prepared for these product(s) because they are articles. Articles are not subject to the Occupational Safety and Health Administration's Hazard Communication Standard (29 CFR 1910.1200(b)(6)(v)). As defined in this standard: "Article" means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Document Group:	09-1538-9	Version Number:	1.04
Issue Date:	04/30/21	Supersedes Date:	12/19/19

SECTION 1: Identification

1.1. Product identifier

Scotch® Linerless Rubber Splicing Tape 130C

Product Identification Numbers

ID Number	UPC	ID Number	UPC
44-0025-7298-8		78-8055-8713-2	
78-8114-3501-1		78-8126-9244-6	
78-8135-4843-1		80-0000-0227-1	
80-0000-0277-6		80-0000-0764-3	
80-0140-0098-0		80-1006-1159-1	
80-1006-1281-3		80-6105-9732-2	
80-6105-9733-0		80-6108-3340-4	00-54001-41717-0
80-6108-3341-2		80-6108-3373-5	
80-6108-3374-3		80-6108-3375-0	
80-6108-3376-8		80-6108-3967-4	
80-6108-9479-4		80-6108-9736-7	
80-6109-8146-8		80-6112-0252-6	
80-6112-0253-4		80-6112-6528-3	
80-6114-1928-6		80-6114-3885-6	

4010046204, 4100037092, 4100029480, 7100123701, 7100164334, 7000006085, 7000006086, 7000132635, 7000140715, 7000006090, 7000006091, 7100164472, 7000133169

1.2. Recommended use and restrictions on use

Recommended use

Electrical

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Electrical Markets Division

ADDRESS: International Operations
3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This product is exempt from hazard classification according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Backing	Mixture	60 - 90
ALUMINA TRIHYDRATE	21645-51-2	30 - 70
Acrylic Adhesive	Trade Secret*	5 - 30
SOLVENT REFINED RESIDUAL OIL (PETROLEUM)	64742-01-4	1 - 10
PIPERYLENE-2-METHYL-2-BUTENE POLYMER	26813-14-9	1 - 7

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

No need for first aid is anticipated.

Skin Contact:

No need for first aid is anticipated.

Eye Contact:

No need for first aid is anticipated.

If Swallowed:

No need for first aid is anticipated.

SECTION 5: Fire-fighting measures

In case of fire: Use a carbon dioxide or dry chemical extinguisher to extinguish.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Not applicable.

6.2. Environmental precautions

Not applicable.

6.3. Methods and material for containment and cleaning up

Not applicable.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection

This product is considered to be an article which does not release or otherwise result in exposure to a hazardous chemical under normal use conditions. No engineering controls or personal protective equipment (PPE) are necessary.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance****Physical state**

Solid

Color

Black

Specific Physical Form:

Roll of Tape

Odor

Pungent Odor

Odor threshold*Not Applicable***pH***Not Applicable***Melting point***No Data Available***Boiling Point***Not Applicable***Flash Point***Not Applicable***Evaporation rate***Not Applicable***Flammability (solid, gas)**

Not Classified

Flammable Limits(LEL)*No Data Available***Flammable Limits(UEL)***No Data Available***Vapor Pressure***Not Applicable***Vapor Density***Not Applicable***Density***No Data Available***Specific Gravity***No Data Available***Solubility in Water**

Negligible

Solubility- non-water*Not Applicable***Partition coefficient: n-octanol/ water***No Data Available***Autoignition temperature***No Data Available***Decomposition temperature***Not Applicable***Viscosity***Not Applicable***Average particle size***No Data Available***Bulk density***No Data Available***Hazardous Air Pollutants***No Data Available***Molecular weight***No Data Available***Volatile Organic Compounds***Not Applicable***Percent volatile***Not Applicable***Softening point***No Data Available***VOC Less H2O & Exempt Solvents***Not Applicable*

SECTION 10: Stability and reactivity

This material is considered to be non reactive under normal use conditions.

SECTION 11: Toxicological information**Inhalation:**

No health effects are expected

Skin Contact:

No health effects are expected

Eye Contact:

No health effects are expected

Ingestion:

No health effects are expected

Additional Information:

This product, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. However, use or processing of the product in a manner not in accordance with the product's directions for use may affect the performance of the product and may present potential health and safety hazards.

SECTION 12: Ecological information

This article is expected to present a low environmental risk either because use and disposal are unlikely to result in a significant release of components to the environment or because those components that may be released are expected to have insignificant environmental impact.

SECTION 13: Disposal considerations

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

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**Chemical Inventories**

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory requirements.

SECTION 16: Other information**NFPA Hazard Classification**

Health: 0 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include

the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 0 **Flammability:** 0 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Regulatory Data Sheet

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This Regulatory Data Sheet is provided as a courtesy in response to a customer request.

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Issue Date:	01/19/22	Supersedes Date:	07/20/21

Scotch® Super 33+™ Vinyl Electrical Tape and Scotch® Premium Vinyl Electrical Tape Super 88

3M
Electrical Markets Division
3M Center, St. Paul, MN 55144-1000, USA
1-888-3M HELPS (1-888-364-3577)

RDSs are available at www.3M.com

Regulations and Industry Standards

California Proposition 65

This product contains a chemical/chemicals that have been recognized by the State of California to cause cancer or reproductive harm.

Conflict Minerals

Conflict Minerals, which the U.S. Securities and Exchange Commission (“SEC”) has defined as gold, columbite-tantalite (coltan), cassiterite, wolframite, or their derivatives (tin, tantalum, or tungsten), are not contained in or are not “necessary to the functionality or necessary to the production” of the above-listed product, as the term “necessary to the functionality or the production” is defined under the SEC’s Conflict Minerals Rule. 77 Fed. Reg. 56274 (Sept. 12, 2012).

EU REACH

This product, including any article that the product is composed of, does not contain at greater than 0.1% by weight a Substance of Very High Concern (SVHC) substance identified according to Article 59 of REACH. This declaration reflects the substances on the candidate SVHC list, effective January 2022.

EU RoHS

This product does not exceed the maximum concentration values (MCVs) set under EU Directive 2011/65/EU (RoHS recast/RoHS 2), as stated in Annex II to that directive. This means that each of the homogenous materials within this product does not exceed the following MCVs: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; and (b) 0.01% (by weight) for cadmium.

EU RoHS Phthalates

This product does not exceed the maximum concentration values (MCVs) for phthalates set under EU Directive 2011/65/EU (RoHS recast/RoHS 2), as amended by EU 2015/863, which applies to finished EEE after July 22, 2019 for Category 1-7, 10-11 products and after July 22, 2021 for Category 8 and 9 products. This means that each of the homogeneous materials within this product does not exceed the MCV of 0.1% (by weight) for each of the following phthalates: DEHP, BBP, DBP, and DIBP.

TSCA Section 6

This product is not known to contain 2,4,6-Tri-tert-butylphenol (CAS 732-26-3).

TSCA Section 6

This product is not known to contain Decabromodiphenyl Ether (Deca-BDE) (CAS 1163-19-5).

TSCA Section 6

This product is not known to contain Hexachlorobutadiene (HCB) (CAS 87-68-3).

TSCA Section 6

This product is not known to contain Pentachlorothiophenol (PCTP) (CAS 133-49-3).

TSCA Section 6

This product is not known to contain Phenol, isopropylated phosphate (3:1) (PIP (3:1)) (CAS 68937-41-7).

Chemicals and/or Compounds of Interest

Antimony and (Sb) Compounds : Contains.

Arsenic and (As) Compounds : Not intentionally added.

Asbestos : Not intentionally added.

Benzenamine, N-Phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST) (CAS 68921-45-9) : Not intentionally added.

Beryllium and (Be) Compounds : Not intentionally added.

Bismuth and (Bi) Compounds : Not intentionally added.

Bisphenol A (BPA) (CAS 80-05-7) : Not intentionally added.

Butyl Benzyl Phthalate (BBP) (CAS 85-68-7) : Not intentionally added.

Butylated Hydroxytoluene (BHT) (128-37-0) : Not intentionally added.

Cadmium and (Cd) Compounds : Not intentionally added.

Chlorinated Paraffins, Short Chain : Not intentionally added.

Chlorinated Polyethylene : Not intentionally added.

Chlorofluorocarbons (CFCs) : Not intentionally added.

Chloroprene (Neoprene) : Not intentionally added.

Chlorosulfonated Polyethylene : Not intentionally added.

Chromium and (Cr) Compounds : Not intentionally added.

Colophony (Rosin) (CAS 8050-09-7) : Not intentionally added.

Creosote : Not intentionally added.

Crystalline Silica : Not intentionally added.

Decabromodiphenyl Ether (Deca-BDE) (CAS 1163-19-5) : Not intentionally added.

Di(2-Ethylhexyl) Phthalate (DEHP) (CAS 117-81-7) : Not intentionally added.

Di(Methoxyethyl) Phthalate (DMEP) (CAS 117-82-8) : Not intentionally added.

Dibutyl Phthalate (DBP) (CAS 84-74-2) : Not intentionally added.

Dibutyl Tin Compounds : Not intentionally added.

Diisobutyl Phthalate (DIBP) (CAS 84-69-5) : Not intentionally added.

Diisodecyl Phthalate (DIDP) : Not intentionally added.

Diisononyl Phthalate (DINP) : Contains.

Dimethyl Fumarate (DMF) (CAS 624-49-7) : Not intentionally added.

Dimethylacetamide (CAS 127-19-5) : Not intentionally added.

Di-n-Octyl Phthalate (DNOP) (CAS 117-84-0) : Not intentionally added.

Dioxins and Furans : Not intentionally added.

Dyes : Not intentionally added.

Epoxy Compounds : Not intentionally added.

Fiberglass : Not intentionally added.

Flame Retardants (not PBB or PBDE) : Not intentionally added.

Flavorings : Not intentionally added.

Formaldehyde (CAS 50-00-0) : Not intentionally added.

Genetically Modified Organisms (GMOs) : Not intentionally added.

Gluten : Not intentionally added.

Halogenated Compounds : Contains.

Halogenated Flame Retardants : Not intentionally added.

Hexabromo Cyclo-Dodecane (HBCD) : Not intentionally added.

Hexavalent Chromium and (Cr+6) Compounds : Not intentionally added.
Hydrochlorofluorocarbons (HCFCs) : Not intentionally added.
Lead and (Pb) Compounds : Not intentionally added.
Materials of Human or Animal Origin : Not intentionally added.
Melamine (CAS 108-78-1) : Not intentionally added.
Mercury and (Hg) Compounds : Not intentionally added.
Naphthalene (CAS 91-20-3) : Not intentionally added.
Natural Rubber Latex : Contains.
Nickel and (Ni) Compounds : Not intentionally added.
N-Nitrosamines : Not intentionally added.
Nonylphenol (NP) : Not intentionally added.
Nonylphenol Ethoxylates (NPE) : Not intentionally added.
Nuts : Not intentionally added.
Organochlorine Pesticides : Not intentionally added.
Organophosphate Pesticides : Not intentionally added.
Organotin Compounds : Not intentionally added.
Ozone Depleting Chemicals (ODCs) : Not intentionally added.
Pentachlorophenol (87-86-5) : Not intentionally added.
Perfluorooctanesulfonic Acid (PFOS) (CAS 1763-23-1) : Not intentionally added.
Perfluorooctanoic Acid (PFOA) (CAS 335-67-1) : Not intentionally added.
Petrochemical Fertilizers : Not intentionally added.
Phenol (CAS 108-95-2) : Not intentionally added.
Phosphorus and (P) Compounds : Not intentionally added.
Phthalates : Contains.
Polybrominated Biphenyls (PBB) : Not intentionally added.
Polybrominated Diphenylethers (PBDE) : Not intentionally added.
Polychlorinated Biphenyls (PCBs) : Not intentionally added.
Polyvinyl Chloride (PVC) : Contains.
Radioactive Substance : Not intentionally added.
Selenium and (Se) Compounds : Not intentionally added.
Silicone : Not intentionally added.
Sulfur and (S) Compounds : Not intentionally added.
Tetrabromobisphenol A (TBBA) (CAS 79-94-7) : Not intentionally added.
Tin and (Sn) Compounds : Not intentionally added.
Tributyl Tin Compounds : Not intentionally added.
Triphenyl Tin Compounds : Not intentionally added.
Urea-Formaldehyde (UF) : Not intentionally added.
Zinc and (Zn) Compounds : Contains.

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Safety Data Sheet

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Issue Date:	2021/11/04	Supersedes Date:	2020/10/21

This Safety Data Sheet has been prepared in accordance with the Canadian Hazardous Products Regulations.

SECTION 1: Identification

1.1. Product identifier

3M(TM) Fire Barrier Moldable Putty + Pads

Product Identification Numbers

44-0042-9351-8	44-0042-9352-6	98-0400-5524-0	98-0400-5525-7	98-0400-5526-5
98-0400-5547-1	98-0441-1056-1	98-0441-1107-2	98-0441-1108-0	DE-2729-4490-6
JE-4100-2483-8				

1.2. Recommended use and restrictions on use

Intended Use

Passive fire protection in industrial applications

Restrictions on use

Not applicable

1.3. Supplier's details

Company:	3M Canada Company
Division:	Industrial Adhesives and Tapes Division
Address:	1840 Oxford Street East, Post Office Box 5757, London, Ontario N6A 4T1
Telephone:	(800) 364-3577
Website:	www.3M.ca

1.4. Emergency telephone number

Medical Emergency Telephone: 1-800-3M HELPS / 1-800-364-3577; Transportation Emergency Telephone (CANUTEC): (613) 996-6666

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Serious Eye Damage/Irritation: Category 2A.

Reproductive Toxicity: Category 2.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark | Health Hazard |

Pictograms



Hazard statements

Causes serious eye irritation. Suspected of damaging fertility or the unborn child.

Precautionary statements

General:

Keep out of reach of children.

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye/face protection. Wash exposed skin thoroughly after handling.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

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

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt	Common Name
Zinc Borate 2335	138265-88-0	10 - 30 Trade Secret *	Boron zinc hydroxide oxide (B12Zn4(OH)14O15)
Methyl Esters of Hydrogenated Rosin	8050-15-5	10 - 15	Resin acids and Rosin acids, hydrogenated, Me esters
Polyisobutylene	9003-27-4	10 - 15	1-Propene, 2-methyl-, homopolymer
Sodium Silicate	1344-09-8	10 - 15	Silicic acid, sodium salt
Styrene-Butadiene Polymer	9003-55-8	10 - 15	Benzene, ethenyl-, polymer with 1,3-butadiene
Glass Wool	65997-17-3	5 - 10	Glass, oxide, chemicals
Melamine Phosphate	41583-09-9	5 - 10	1,3,5-Triazine-2,4,6-triamine, phosphate
Butadiene-Styrene-Meta-Divinylbenzene Polymer	26471-45-4	1 - 5	Benzene, 1,3-diethenyl-, polymer with 1,3-butadiene and ethenylbenzene
Alpha-Methylstyrene-	62258-49-5	1 - 3	Benzene, (1-methylethenyl)-, polymer with

3M(TM) Fire Barrier Moldable Putty + Pads

Isoamylene-Piperylene Polymer			2-methyl-2-butene and 1,3-pentadiene
Rayon Fiber	None	1 - 3	Not Applicable
Regenerated Cellulose	68442-85-3	< 3	Cellulose, regeneratedng this with carbon disulfide, dissolving this in a dilute alkali solution and extruding into an acid to form a continuous viscose tube.
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	1 - 3	Fumed amorphous silica, crystalline-free
Water	7732-18-5	1 - 3	Water
Fatty Acids, C14-18 and C16-18-Unsatd.	67701-06-8	< 1.5	No Data Available
Iron Oxide	25036-25-3	< 1	No Data Available

Rayon Fiber is a non-hazardous Trade Secret material according to WHMIS criteria.

*The actual concentration of this ingredient has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

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

No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

- Aldehydes
- Carbon monoxide
- Carbon dioxide
- Hydrogen Chloride

Condition

- During Combustion
- During Combustion
- During Combustion
- During Combustion

5.3. Special protective actions for fire-fighters

Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Glass Wool	65997-17-3	Manufacturer determined	TWA(as non-fibrous, respirable)(8 hours):3 mg/m ³ ;TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m ³	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face

protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity. Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Putty
Colour	Red
Odour	Pine
Odour threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point/Freezing point	<i>Not Applicable</i>
Boiling point	<i>Not Applicable</i>
Flash Point	No flash point
Evaporation rate	<i>Not Applicable</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapour Pressure	<i>Not Applicable</i>
Vapour Density and/or Relative Vapour Density	<i>Not Applicable</i>
Density	1.25 g/cm ³
Relative density	1.25 [Ref Std: WATER=1]
Water solubility	<i>No Data Available</i>
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity/Kinematic Viscosity	<i>No Data Available</i>
Volatile Organic Compounds	< 1 % weight
Percent volatile	<i>No Data Available</i>
VOC Less H ₂ O & Exempt Solvents	< 1 g/l

Nanoparticles

This material contains nanoparticles.

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

May be harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. May cause additional health effects (see below).

Additional Health Effects:

3M(TM) Fire Barrier Moldable Putty + Pads**Reproductive/Developmental Toxicity:**

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Ceramic Fibers (Respirable Size)	65997-17-3	Anticipated human carcinogen	National Toxicology Program Carcinogens
Refractory ceramic fibres	65997-17-3	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
Zinc Borate 2335	Dermal	Rabbit	LD50 > 10,000 mg/kg
Zinc Borate 2335	Inhalation-Dust/Mist	Rat	LC50 > 4.95 mg/l
Zinc Borate 2335	Ingestion	Rat	LD50 > 10,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Styrene-Butadiene Polymer	Dermal	Rabbit	LD50 > 2,000 mg/kg
Styrene-Butadiene Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
Polyisobutylene	Dermal		LD50 estimated to be > 5,000 mg/kg
Polyisobutylene	Ingestion	Rat	LD50 > 2,000 mg/kg
Melamine Phosphate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Melamine Phosphate	Ingestion	Rat	LD50 > 4,000 mg/kg
Glass Wool	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass Wool	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Rat	LD50 > 5,110 mg/kg
Iron Oxide	Dermal	Rat	LD50 > 1,600 mg/kg
Iron Oxide	Ingestion	Rat	LD50 > 1,000 mg/kg
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Ingestion	Rat	LD50 > 40,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	No significant irritation
Sodium Silicate	Rabbit	Corrosive
Styrene-Butadiene Polymer	Professional judgement	No significant irritation
Polyisobutylene	Rabbit	No significant irritation
Glass Wool	Professional judgement	No significant irritation
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Professional judgement	Minimal irritation

3M(TM) Fire Barrier Moldable Putty + Pads

	nt	
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Iron Oxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	Severe irritant
Sodium Silicate	Rabbit	Corrosive
Polyisobutylene	Rabbit	No significant irritation
Glass Wool	Professional judgement	No significant irritation
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Iron Oxide	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Zinc Borate 2335	Guinea pig	Not classified
Sodium Silicate	Mouse	Not classified
Synthetic amorphous silica, fumed, crystalline-free	Human and animal	Not classified
Iron Oxide	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
Iron Oxide	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Zinc Borate 2335	In Vitro	Some positive data exist, but the data are not sufficient for classification
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Glass Wool	In Vitro	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	In Vitro	Not mutagenic
Iron Oxide	In vivo	Not mutagenic
Iron Oxide	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Glass Wool	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Iron Oxide	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
Zinc Borate 2335	Ingestion	Toxic to male reproduction	Rat	NOAEL 100	92 days

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				mg/kg/day	
Zinc Borate 2335	Ingestion	Toxic to development	Rat	LOAEL 100 mg/kg/day	during gestation
Sodium Silicate	Ingestion	Not classified for development	Mouse	NOAEL 200 mg/kg/day	during gestation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Iron Oxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Iron Oxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Iron Oxide	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Iron Oxide	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)
Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Zinc Borate 2335	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Zinc Borate 2335	Inhalation	immune system respiratory system heart endocrine system hematopoietic system liver nervous system kidney and/or bladder	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Ingestion	endocrine system liver kidney and/or bladder heart skin bone, teeth, nails, and/or hair hematopoietic system immune system nervous system eyes respiratory system vascular system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days
Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system blood	Not classified	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	heart liver	Not classified	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Glass Wool	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure

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Synthetic amorphous silica, fumed, crystalline-free	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Iron Oxide	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Iron Oxide	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Iron Oxide	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

No data available.

SECTION 13: Disposal considerations**13.1. Disposal methods**

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Global inventory status**

Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Health: 2 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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3M Canada SDSs are available at www.3M.ca



Safety Data Sheet

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Document Group:	16-0641-7	Version Number:	15.00
Issue Date:	05/19/21	Supersedes Date:	06/18/18

SECTION 1: Identification

1.1. Product identifier

3M(TM) Fire Barrier Moldable Putty Stix MP+

Product Identification Numbers

42-0016-4776-9, 44-0042-9356-7, 44-0042-9357-5, 44-0042-9358-3, 44-0042-9360-9, 98-0400-5417-7
7000006381

1.2. Recommended use and restrictions on use

Recommended use

Passive fire protection in industrial applications

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2A.

Reproductive Toxicity: Category 2.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

Causes serious eye irritation.

Suspected of damaging fertility or the unborn child.

Precautionary Statements**General:**

Keep out of reach of children.

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

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

5% of the mixture consists of ingredients of unknown acute oral toxicity.

5% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Zinc Borate 2335	138265-88-0	20 - 25 Trade Secret *
Petrolatum	8009-03-8	10 - 15 Trade Secret *
Polyisobutylene	9003-27-4	10 - 15 Trade Secret *
Sodium Silicate	1344-09-8	10 - 15 Trade Secret *
Styrene-Butadiene Polymer	9003-55-8	10 - 15 Trade Secret *
Glass Wool	65997-17-3	5 - 10 Trade Secret *
Melamine Phosphate	41583-09-9	5 - 10 Trade Secret *
Butadiene-Styrene-Meta-Divinylbenzene Polymer	26471-45-4	1 - 5 Trade Secret *
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	1 - 3 Trade Secret *
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	62258-49-5	1 - 3 Trade Secret *
Regenerated Cellulose	68442-85-3	< 3 Trade Secret *
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	1 - 3 Trade Secret *
Water	7732-18-5	1 - 3 Trade Secret *
Rayon Fiber	Trade Secret*	1 - 3 Trade Secret *
Fatty Acids, C14-18 and C16-18 Unsatd.	67701-06-8	< 1.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

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

No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Aldehydes
Carbon monoxide
Carbon dioxide
Hydrogen Chloride

Condition

During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with

applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from areas where product may come into contact with food or pharmaceuticals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
SILICA, AMORPHOUS	112945-52-5	OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m ³	
CERAMIC FIBERS	65997-17-3	ACGIH	TWA(as fiber):0.2 fiber/cc	A2: Suspected human carcin.
CONTINUOUS FILAMENT GLASS FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A4: Not class. as human carcin
CONTINUOUS FILAMENT GLASS FIBERS, INHALABLE FRACTION	65997-17-3	ACGIH	TWA(inhalable fraction):5 mg/m ³	A4: Not class. as human carcin
Glass Wool	65997-17-3	Manufacturer determined	TWA(as non-fibrous, respirable)(8 hours):3 mg/m ³ ;TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m ³	
SPECIAL PURPOSE GLASS FIBERS	65997-17-3	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.
MINERAL OILS, HIGHLY-REFINED OILS	8009-03-8	ACGIH	TWA(inhalable fraction):5 mg/m ³	A4: Not class. as human carcin
Paraffin oil	8009-03-8	OSHA	TWA(as mist):5 mg/m ³	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Solid

Color

Red

Specific Physical Form:

Putty

Odor

Odorless

Odor threshold

No Data Available

pH

No Data Available

Melting point

Not Applicable

Boiling Point

Not Applicable

Flash Point

Flash point > 93 °C (200 °F)

Evaporation rate

Not Applicable

Flammability (solid, gas)

Not Classified

Flammable Limits(LEL)

Not Applicable

Flammable Limits(UEL)

Not Applicable

Vapor Pressure

Not Applicable

Vapor Density

Not Applicable

Density

1.25 g/cm³

Specific Gravity

1.25 [Ref Std: WATER=1]

Solubility In Water

No Data Available

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

Not Applicable

Decomposition temperature

No Data Available

Viscosity

No Data Available

Molecular weight

No Data Available

Volatile Organic Compounds

< 1 % weight

VOC Less H2O & Exempt Solvents

< 1 g/l

SECTION 10: Stability and reactivity**10.1. Reactivity**

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products**Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Generic: CERAMIC FIBERS	65997-17-3	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Generic: CERAMIC FIBERS	65997-17-3	Anticipated human carcinogen	National Toxicology Program Carcinogens

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
Zinc Borate 2335	Dermal	Rabbit	LD50 > 10,000 mg/kg
Zinc Borate 2335	Inhalation-Dust/Mist	Rat	LC50 > 4.95 mg/l
Zinc Borate 2335	Ingestion	Rat	LD50 > 10,000 mg/kg
Sodium Silicate	Dermal	Rabbit	LD50 > 4,640 mg/kg
Sodium Silicate	Ingestion	Rat	LD50 500 mg/kg
Petrolatum	Dermal		LD50 estimated to be > 5,000 mg/kg
Petrolatum	Ingestion	Rat	LD50 > 5,000 mg/kg
Styrene-Butadiene Polymer	Dermal	Rabbit	LD50 > 2,000 mg/kg
Styrene-Butadiene Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
Polyisobutylene	Dermal		LD50 estimated to be > 5,000 mg/kg
Polyisobutylene	Ingestion	Rat	LD50 > 2,000 mg/kg
Melamine Phosphate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Melamine Phosphate	Ingestion	Rat	LD50 > 4,000 mg/kg
Glass Wool	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass Wool	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Rat	LD50 > 5,110 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Alpha-Methylstyrene-Isoamylene-Piperylene Polymer	Ingestion	Rat	LD50 > 40,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	No significant irritation
Sodium Silicate	Rabbit	Corrosive
Styrene-Butadiene Polymer	Professional judgment	No significant irritation

Polyisobutylene	Rabbit	No significant irritation
Glass Wool	Professional judgement	No significant irritation
Butadiene-Styrene-Meta-Divinylbenzene Polymer	Professional judgement	Minimal irritation
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Zinc Borate 2335	Rabbit	Severe irritant
Sodium Silicate	Rabbit	Corrosive
Polyisobutylene	Rabbit	No significant irritation
Glass Wool	Professional judgement	No significant irritation
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Zinc Borate 2335	Guinea pig	Not classified
Sodium Silicate	Mouse	Not classified
Synthetic amorphous silica, fumed, crystalline-free	Human and animal	Not classified
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Zinc Borate 2335	In Vitro	Some positive data exist, but the data are not sufficient for classification
Sodium Silicate	In Vitro	Not mutagenic
Sodium Silicate	In vivo	Not mutagenic
Glass Wool	In Vitro	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	In Vitro	Not mutagenic
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Glass Wool	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Synthetic amorphous silica, fumed, crystalline-free	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Mouse	Some positive data exist, but the data are not

sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Ingestion	Toxic to male reproduction	Rat	NOAEL 100 mg/kg/day	92 days
Zinc Borate 2335	Ingestion	Toxic to development	Rat	LOAEL 100 mg/kg/day	during gestation
Sodium Silicate	Ingestion	Not classified for development	Mouse	NOAEL 200 mg/kg/day	during gestation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Sodium Silicate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Zinc Borate 2335	Inhalation	immune system respiratory system heart endocrine system hematopoietic system liver nervous system kidney and/or bladder	Not classified	Rat	NOAEL 0.15 mg/l	2 weeks
Zinc Borate 2335	Ingestion	endocrine system liver kidney and/or bladder heart skin bone, teeth, nails, and/or hair hematopoietic system immune system nervous system eyes respiratory system vascular system	Not classified	Rat	NOAEL 375 mg/kg/day	92 days

Sodium Silicate	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	LOAEL 2,400 mg/kg/day	4 weeks
Sodium Silicate	Ingestion	endocrine system blood	Not classified	Rat	NOAEL 804 mg/kg/day	3 months
Sodium Silicate	Ingestion	heart liver	Not classified	Rat	NOAEL 1,259 mg/kg/day	8 weeks
Glass Wool	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Synthetic amorphous silica, fumed, crystalline-free	Inhalation	respiratory system silicosis	Not classified	Human	NOAEL Not available	occupational exposure
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Reproductive toxicity

Serious eye damage or eye irritation

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information**NFPA Hazard Classification**

Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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SAFETY DATA SHEET

1. Identification

Product identifier Rust Proof Enamel Spray Paint-OSHA Black

Other means of identification

Product code 18105

Recommended use Coating

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name CRC Industries, Inc.
Address 885 Louis Dr.
Warminster, PA 18974 US

Telephone

General Information 215-674-4300

Technical Assistance 800-521-3168

Customer Service 800-272-4620

24-Hour Emergency 800-424-9300 (US)

(CHEMTREC) 703-527-3887 (International)

Website www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
	Gases under pressure	Liquefied gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Reproductive toxicity (the unborn child)	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Aspiration hazard	Category 1
	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 Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not apply while equipment is energized. Pressurized container: Do not pierce or burn, even after use. Extinguish all flames, pilot lights and heaters. Vapors will accumulate readily and may ignite. Do not breathe gas. Do not breathe mist or vapor. Use only with adequate ventilation; maintain ventilation during use and until all vapors are gone. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Avoid release to the environment.

Response

If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. If exposed or concerned: Get medical attention.

Storage

Store in a well-ventilated place. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Exposure to high temperature may cause can to burst.

Disposal

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

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

49.76% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 49.58% 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	%
Acetone		67-64-1	30 - 40
Propane		74-98-6	10 - 20
Toluene		108-88-3	10 - 20
n-Butane		106-97-8	5 - 10
Ethylene glycol propyl ether		2807-30-9	3 - 5
Methyl propyl ketone		107-87-9	3 - 5
Propylene glycol methyl ether acetate		108-65-6	1 - 3
Carbon black		1333-86-4	< 1
Methyl isobutyl ketone		108-10-1	< 0.3

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

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.

Most important symptoms/effects, acute and delayed

Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain. Prolonged exposure may cause chronic effects.

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. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Small Fires: Powder. Dry sand. Carbon dioxide (CO ₂). Water spray. Large Fires: Alcohol resistant foam. Water spray.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire-fighting equipment/instructions	In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
General fire hazards	Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Large Spills: Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. 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. Scoop up used absorbent into drums or other appropriate container. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

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. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. Do not breathe mist or vapor. Do not breathe gas. Avoid contact with skin and eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Avoid contact with clothing. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. When using, do not eat, drink or smoke. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.
Conditions for safe storage, including any incompatibilities	Level 3 Aerosol. Store locked up. Store in a well-ventilated place. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m ³ 1000 ppm
Carbon black (CAS 1333-86-4)	PEL	3.5 mg/m ³

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

Components	Type	Value
Methyl isobutyl ketone (CAS 108-10-1)	PEL	410 mg/m3
		100 ppm
Methyl propyl ketone (CAS 107-87-9)	PEL	700 mg/m3
		200 ppm
Propane (CAS 74-98-6)	PEL	1800 mg/m3
		1000 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Carbon black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable fraction.
Methyl isobutyl ketone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
Methyl propyl ketone (CAS 107-87-9)	STEL	150 ppm	
n-Butane (CAS 106-97-8)	STEL	1000 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Carbon black (CAS 1333-86-4)	TWA	0.1 mg/m3
Methyl isobutyl ketone (CAS 108-10-1)	STEL	300 mg/m3
		75 ppm
	TWA	205 mg/m3
		50 ppm
Methyl propyl ketone (CAS 107-87-9)	TWA	530 mg/m3
		150 ppm
n-Butane (CAS 106-97-8)	TWA	1900 mg/m3
		800 ppm
Propane (CAS 74-98-6)	TWA	1800 mg/m3
		1000 ppm
Toluene (CAS 108-88-3)	STEL	560 mg/m3
		150 ppm
	TWA	375 mg/m3
		100 ppm

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Propylene glycol methyl ether acetate (CAS 108-65-6)	TWA	50 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Methyl isobutyl ketone (CAS 108-10-1)	1 mg/l	Methyl isobutyl ketone	Urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

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

Exposure guidelines**US - California OELs: Skin designation**

Propylene glycol methyl ether acetate (CAS 108-65-6) Can be absorbed through the skin.
Toluene (CAS 108-88-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3) Skin designation applies.

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. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

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

Skin protection

Hand protection Wear protective gloves such as nitrile or rubber.

Other Wear appropriate chemical resistant clothing.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Air monitoring is needed to determine actual employee exposure levels.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

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

9. Physical and chemical properties**Appearance**

Physical state Liquid.

Form Aerosol.

Color Black.

Odor Aromatic.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range -47.2 °F (-44 °C)

Flash point -2.2 °F (-19 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1.7 %

Flammability limit - upper (%) 10.9 %

Vapor pressure 1385.3 hPa estimated

Vapor density > 1 (air = 1)

Relative density 0.77 - 0.85

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 689 °F (365 °C)

Decomposition temperature Not available.

Viscosity (kinematic)	Not available.
Percent volatile	85 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Nitrates. Fluorine. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May be fatal if swallowed and enters airways.
Inhalation	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause damage to organs by inhalation.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

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

Product	Species	Test Results
Rust Proof Enamel Spray Paint-OSHA Black		
Acute		
<i>Dermal</i>		
LD50	Rabbit	16520.8535 mg/kg estimated
<i>Inhalation</i>		
LC50	Rat	17250.6738 ppm, 4 hours estimated 7113.5137 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	10664.5713 mg/kg estimated

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

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Suspected of causing cancer.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Carbon black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Methyl isobutyl ketone (CAS 108-10-1)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Narcotic effects.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. May cause damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product	Species	Test Results	
Rust Proof Enamel Spray Paint-OSHA Black			
Crustacea	EC50	Daphnia	84.8018 mg/l, 48 hours estimated
Fish	LC50	Fish	696.7978 mg/l, 96 hours estimated
Components	Species	Test Results	
Acetone (CAS 67-64-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	21.6 - 23.9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Methyl isobutyl ketone (CAS 108-10-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	492 - 593 mg/l, 96 hours
Methyl propyl ketone (CAS 107-87-9)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	1190 - 1290 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours

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

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

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone	-0.24
Methyl isobutyl ketone	1.31
Methyl propyl ketone	0.91
n-Butane	2.89
Propane	2.36
Toluene	2.73

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products This material and its container must be disposed of as hazardous waste. If discarded, this product is considered a RCRA ignitable waste, D001. Consult authorities before disposal. Empty container can be recycled. Contents under pressure. Do not puncture, incinerate or crush. 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 regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable, limited quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions	306

Packaging non bulk	None
Packaging bulk	None
IATA	
UN number	UN1950
UN proper shipping name	Aerosols, flammable, limited quantity
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.
IMDG	
UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.	
SARA 304 Emergency release notification	Not regulated.	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.	
US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance	Ethylene glycol propyl ether (CAS 2807-30-9) Methyl isobutyl ketone (CAS 108-10-1) Toluene (CAS 108-88-3)	
CERCLA Hazardous Substance List (40 CFR 302.4)	Acetone (CAS 67-64-1) Ethylene glycol propyl ether (CAS 2807-30-9) Methyl isobutyl ketone (CAS 108-10-1) Toluene (CAS 108-88-3)	
CERCLA Hazardous Substances: Reportable quantity		
Acetone (CAS 67-64-1)		5000 lbs
Methyl isobutyl ketone (CAS 108-10-1)		5000 lbs
Toluene (CAS 108-88-3)		1000 lbs
	Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.	
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Ethylene glycol propyl ether (CAS 2807-30-9) Methyl isobutyl ketone (CAS 108-10-1) Toluene (CAS 108-88-3)	
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	n-Butane (CAS 106-97-8) Propane (CAS 74-98-6)	
Safe Drinking Water Act (SDWA)	Not regulated.	

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

Acetone (CAS 67-64-1)	6532
Methyl isobutyl ketone (CAS 108-10-1)	6715
Toluene (CAS 108-88-3)	6594

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

Acetone (CAS 67-64-1)	35 % weight/volumn
Methyl isobutyl ketone (CAS 108-10-1)	35 % weight/volumn
Toluene (CAS 108-88-3)	35 % weight/volumn

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl isobutyl ketone (CAS 108-10-1)	6715
Toluene (CAS 108-88-3)	594

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312	Immediate Hazard - Yes
Hazard categories	Delayed Hazard - Yes
	Fire Hazard - Yes
	Pressure Hazard - Yes
	Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. New Jersey RTK - Substances: Listed substance

Acetone (CAS 67-64-1)
Carbon black (CAS 1333-86-4)
Ethylene glycol propyl ether (CAS 2807-30-9)
Methyl isobutyl ketone (CAS 108-10-1)
Methyl propyl ketone (CAS 107-87-9)
n-Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Methyl propyl ketone (CAS 107-87-9)
n-Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)

US. Pennsylvania RTK - Hazardous Substances

Acetone (CAS 67-64-1)
Carbon black (CAS 1333-86-4)
Ethylene glycol propyl ether (CAS 2807-30-9)
Methyl isobutyl ketone (CAS 108-10-1)
Methyl propyl ketone (CAS 107-87-9)
n-Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Ethylene glycol propyl ether (CAS 2807-30-9)
Methyl isobutyl ketone (CAS 108-10-1)
n-Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Toluene (CAS 108-88-3)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

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

Carbon black (CAS 1333-86-4)	Listed: February 21, 2003
Ethylbenzene (CAS 100-41-4)	Listed: June 11, 2004
Methyl isobutyl ketone (CAS 108-10-1)	Listed: November 4, 2011

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Toluene (CAS 108-88-3)	Listed: January 1, 1991
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US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3)

Listed: August 7, 2009

Volatile organic compounds (VOC) regulations**EPA****Aerosol coatings (40 CFR 59, Subpt. E)** Compliant**State****Aerosol coatings** This product is regulated as a Non-Flat Paint. This product is compliant for sale in all 50 states.**Maximum incremental reactivity (MIR)** 1.18**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)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
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)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

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

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

Issue date	10-02-2013
Prepared by	Allison Cho
Version #	01
Further information	Not available.
HMIS® ratings	Health: 2* Flammability: 4 Physical hazard: 1 Personal protection: B
NFPA ratings	Health: 2 Flammability: 4 Instability: 1
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

SAFETY DATA SHEET

RDMI1004A

Section 1. Identification

Product name : KRYLON® MARK-IT® Inverted Marking Paint
Bright Yellow

Product code : RDMI1004A

Other means of identification : Not available.

Product type : Aerosol.

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

Paint or paint related material.

Manufacturer : Krylon Products Group
101 W. Prospect Avenue
Cleveland, OH 44115

Emergency telephone number of the company : US / Canada: (216) 566-2917
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Product Information Telephone Number : US / Canada: (800) 457-9566
Mexico: Not Available

Regulatory Information Telephone Number : US / Canada: (216) 566-2902
Mexico: Not Available

Transportation Emergency Telephone Number : US / Canada: (216) 566-2917
Mexico: SETIQ 800-00-214-00 / 55-5559-1588 Available 24 hours and 365 days a year

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE AEROSOLS - Category 1
GASES UNDER PRESSURE - Compressed gas
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 19.5% (oral), 30.3% (dermal), 19.5% (inhalation)

GHS label elements

Hazard pictograms :



Date of issue/Date of revision : 10/27/2021 **Date of previous issue** : 9/26/2021

RDMI1004A KRYLON® MARK-IT® Inverted Marking Paint
Bright Yellow

Version : 21.03 1/17

SHW-85-NA-GHS-~~58~~

Section 2. Hazards identification

Signal word	: Danger
Hazard statements	: Extremely flammable aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.
<u>Precautionary statements</u>	
General	: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash thoroughly after handling. Pressurized container: Do not pierce or burn, even after use.
Response	: IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
Storage	: Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place. Keep container tightly closed.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Contains solvents which can cause permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Please refer to the SDS for additional information. Keep out of reach of children. Keep upright in a cool, dry place. Do not discard empty can in trash compactor.
Hazards not otherwise classified	: DANGER: Rags, steel wool, other waste soaked with this product, and sanding residue may spontaneously catch fire if improperly discarded. Immediately place rags, steel wool, other waste soaked with this product, and sanding residue in a sealed, water-filled, metal container. Dispose of in accordance with local fire regulations.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.
<u>CAS number/other identifiers</u>	

Section 3. Composition/information on ingredients

Ingredient name	% by weight	CAS number
Toluene	≥10 - ≤25	108-88-3
Propane	≤10	74-98-6
Light Aliphatic Hydrocarbon	≤10	64742-47-8
Butane	≤5	106-97-8
Calcium Carbonate	≤3	1317-65-3
Lt. Aliphatic Hydrocarbon Solvent	≤3	64742-89-8
Titanium Dioxide	≤1	13463-67-7
Xylene, mixed isomers	≤0.3	1330-20-7

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation.
- Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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 (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits (OSHA United States)

Ingredient name	CAS #	Exposure limits
Toluene	108-88-3	<p>OSHA PEL Z2 (United States, 2/2013). TWA: 200 ppm 8 hours. CEIL: 300 ppm AMP: 500 ppm 10 minutes.</p> <p>NIOSH REL (United States, 10/2020). TWA: 100 ppm 10 hours. TWA: 375 mg/m³ 10 hours. STEL: 150 ppm 15 minutes. STEL: 560 mg/m³ 15 minutes.</p> <p>ACGIH TLV (United States, 1/2021). Ototoxicant. TWA: 20 ppm 8 hours.</p>
Propane	74-98-6	<p>NIOSH REL (United States, 10/2020). TWA: 1000 ppm 10 hours. TWA: 1800 mg/m³ 10 hours.</p> <p>OSHA PEL (United States, 5/2018). TWA: 1000 ppm 8 hours. TWA: 1800 mg/m³ 8 hours.</p> <p>ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential</p>
Light Aliphatic Hydrocarbon	64742-47-8	<p>ACGIH TLV (United States, 1/2021). Absorbed through skin. TWA: 200 mg/m³, (as total hydrocarbon vapor) 8 hours.</p>
Butane	106-97-8	<p>NIOSH REL (United States, 10/2020). TWA: 800 ppm 10 hours. TWA: 1900 mg/m³ 10 hours.</p> <p>ACGIH TLV (United States, 1/2021). Explosive potential. STEL: 1000 ppm 15 minutes.</p>
Calcium Carbonate	1317-65-3	<p>OSHA PEL (United States, 5/2018). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust</p> <p>NIOSH REL (United States, 10/2020). TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total</p>
Lt. Aliphatic Hydrocarbon Solvent	64742-89-8	None.

Section 8. Exposure controls/personal protection

Titanium Dioxide	13463-67-7	ACGIH TLV (United States, 1/2021). TWA: 10 mg/m ³ 8 hours.
Xylene, mixed isomers	1330-20-7	OSHA PEL (United States, 5/2018). TWA: 15 mg/m ³ 8 hours. Form: Total dust ACGIH TLV (United States, 1/2021). TWA: 100 ppm 8 hours. TWA: 434 mg/m ³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m ³ 15 minutes. OSHA PEL (United States, 5/2018). TWA: 100 ppm 8 hours. TWA: 435 mg/m ³ 8 hours.

Occupational exposure limits (Canada)

Ingredient name	CAS #	Exposure limits
Toluene	108-88-3	CA Alberta Provincial (Canada, 6/2018). Absorbed through skin. 8 hrs OEL: 50 ppm 8 hours. 8 hrs OEL: 188 mg/m ³ 8 hours. CA British Columbia Provincial (Canada, 1/2021). TWA: 20 ppm 8 hours. CA Ontario Provincial (Canada, 6/2019). TWA: 20 ppm 8 hours. CA Quebec Provincial (Canada, 7/2019). Absorbed through skin. TWA _{EV} : 50 ppm 8 hours. TWA _{EV} : 188 mg/m ³ 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). Absorbed through skin. STEL: 60 ppm 15 minutes. TWA: 50 ppm 8 hours.
Normal propane	74-98-6	CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 1000 ppm 8 hours. CA Quebec Provincial (Canada, 7/2019). TWA _{EV} : 1000 ppm 8 hours. TWA _{EV} : 1800 mg/m ³ 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours. CA British Columbia Provincial (Canada, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential. CA Ontario Provincial (Canada, 6/2019). Oxygen Depletion [Asphyxiant]. Explosive potential.
Petroleum refining, hydrotreated light distillate	64742-47-8	CA British Columbia Provincial (Canada, 1/2021). Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapour) 8 hours. CA Alberta Provincial (Canada, 6/2018). Absorbed through skin. 8 hrs OEL: 200 mg/m ³ , (as total hydrocarbon vapour) 8 hours.

Section 8. Exposure controls/personal protection

Butane	106-97-8	<p>CA Ontario Provincial (Canada, 6/2019). Absorbed through skin. TWA: 200 mg/m³, (as total hydrocarbon vapour) 8 hours.</p> <p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 1000 ppm 8 hours.</p> <p>CA Quebec Provincial (Canada, 7/2019). TWA: 800 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 1250 ppm 15 minutes. TWA: 1000 ppm 8 hours.</p> <p>CA British Columbia Provincial (Canada, 1/2021). Explosive potential. STEL: 1000 ppm 15 minutes.</p> <p>CA Ontario Provincial (Canada, 6/2019). Explosive potential. STEL: 1000 ppm 15 minutes.</p>
Titanium dioxide	13463-67-7	<p>CA British Columbia Provincial (Canada, 1/2021). TWA: 10 mg/m³ 8 hours. Form: Total dust TWA: 3 mg/m³ 8 hours. Form: respirable fraction</p> <p>CA Quebec Provincial (Canada, 7/2019). TWA: 10 mg/m³ 8 hours. Form: Total dust.</p> <p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 10 mg/m³ 8 hours.</p> <p>CA Ontario Provincial (Canada, 6/2019). TWA: 10 mg/m³ 8 hours.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. TWA: 10 mg/m³ 8 hours.</p>
Xylene	1330-20-7	<p>CA Alberta Provincial (Canada, 6/2018). 8 hrs OEL: 100 ppm 8 hours. 15 min OEL: 651 mg/m³ 15 minutes. 15 min OEL: 150 ppm 15 minutes. 8 hrs OEL: 434 mg/m³ 8 hours.</p> <p>CA British Columbia Provincial (Canada, 1/2021). TWA: 100 ppm 8 hours. STEL: 150 ppm 15 minutes.</p> <p>CA Quebec Provincial (Canada, 7/2019). TWA: 100 ppm 8 hours. TWA: 434 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 651 mg/m³ 15 minutes.</p> <p>CA Ontario Provincial (Canada, 6/2019). STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 150 ppm 15 minutes. TWA: 100 ppm 8 hours.</p>

Occupational exposure limits (Mexico)

Section 8. Exposure controls/personal protection

	CAS #	Exposure limits
Toluene	108-88-3	NOM-010-STPS-2014 (Mexico, 4/2016). TWA: 20 ppm 8 hours.
Propane	74-98-6	NOM-010-STPS-2014 (Mexico, 4/2016). TWA: 1000 ppm 8 hours.
Light Aliphatic Hydrocarbon	64742-47-8	ACGIH TLV (United States, 1/2021). Absorbed through skin. TWA: 200 mg/m ³ , (as total hydrocarbon vapor) 8 hours.
Butane	106-97-8	NOM-010-STPS-2014 (Mexico, 4/2016). TWA: 1000 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state	: Liquid.
Color	: Not available.
Odor	: Not available.
Odor threshold	: Not available.
pH	: 7
Melting point/freezing point	: Not available.
Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Closed cup: -29°C (-20.2°F) [Pensky-Martens Closed Cup]
Evaporation rate	: 2 (butyl acetate = 1)
Flammability	: Not available.
Lower and upper explosion limit/flammability limit	: Lower: 0.9% Upper: 9.5%
Vapor pressure	: 101.3 kPa (760 mm Hg)
Relative vapor density	: 1 [Air = 1]
Relative density	: 0.87
Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (40°C (104°F)): <20.5 mm ² /s (<20.5 cSt)
Molecular weight	: Not applicable.
<u>Aerosol product</u>	
Type of aerosol	: Spray
Heat of combustion	: 13.842 kJ/g

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame).
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Toluene	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours
	LD50 Oral	Rat	636 mg/kg	-
Butane	LC50 Inhalation Vapor	Rat	658000 mg/m ³	4 hours
Xylene, mixed isomers	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes	-
	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Eyes - Severe irritant	Rabbit	-	870 ug	-
				24 hours 2	-
	Skin - Mild irritant	Pig	-	mg	-
				24 hours 250 uL	-
Titanium Dioxide	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Human	-	72 hours 300 ug l	-
Xylene, mixed isomers	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-
Titanium Dioxide	-	2B	-
Xylene, mixed isomers	-	3	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
Toluene	Category 3	-	Respiratory tract irritation
Propane	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation
Light Aliphatic Hydrocarbon	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation
Butane	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation
Calcium Carbonate	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation
Lt. Aliphatic Hydrocarbon Solvent	Category 3	-	Respiratory tract irritation
Xylene, mixed isomers	Category 3 Category 3	-	Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Toluene	Category 2	-	-
Propane	Category 2	-	-
Light Aliphatic Hydrocarbon	Category 2	-	-
Butane	Category 2	-	-
Lt. Aliphatic Hydrocarbon Solvent	Category 2	-	-
Xylene, mixed isomers	Category 2	-	-

Aspiration hazard

Name	Result
Toluene	ASPIRATION HAZARD - Category 1
Propane	ASPIRATION HAZARD - Category 1
Light Aliphatic Hydrocarbon	ASPIRATION HAZARD - Category 1
Butane	ASPIRATION HAZARD - Category 1
Lt. Aliphatic Hydrocarbon Solvent	ASPIRATION HAZARD - Category 1
Xylene, mixed isomers	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

- Eye contact** : Adverse symptoms may include the following:
 - pain or irritation
 - watering
 - redness
- Inhalation** : Adverse symptoms may include the following:
 - respiratory tract irritation
 - coughing
 - nausea or vomiting
 - headache
 - drowsiness/fatigue
 - dizziness/vertigo
 - unconsciousness
 - reduced fetal weight
 - increase in fetal deaths
 - skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
 - irritation
 - redness
 - reduced fetal weight
 - increase in fetal deaths
 - skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 - nausea or vomiting
 - reduced fetal weight
 - increase in fetal deaths
 - skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Suspected of damaging the unborn child.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	4742.94 mg/kg

Section 11. Toxicological information

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Toluene	Acute EC50 >433 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
Light Aliphatic Hydrocarbon Lt. Aliphatic Hydrocarbon Solvent	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
Titanium Dioxide	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
	Acute LC50 2200 µg/l Fresh water	Fish - Lepomis macrochirus	4 days
Xylene, mixed isomers	Acute LC50 >100000 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
Xylene, mixed isomers	Acute LC50 8500 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Toluene	-	-	Readily
Xylene, mixed isomers	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Toluene	-	90	low
Lt. Aliphatic Hydrocarbon Solvent	-	10 to 2500	high
Xylene, mixed isomers	-	8.1 to 25.9	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	UN1950	UN1950	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	AEROSOLS	AEROSOLS, flammable	AEROSOLS
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	- ERG No. 126 Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2). ERG No. 126 Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	- ERG No. 126 Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	- Dependent upon container size, this product may ship under the Limited Quantity shipping exception.	Emergency schedules F-D, S-U Dependent upon container size, this product may ship under the Limited Quantity shipping exception.

Special precautions for user : Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to IMO instruments : Not available.

Proper shipping name : Not available.

Section 15. Regulatory information

SARA 313

SARA 313 (40 CFR 372.45) supplier notification can be found on the Environmental Data Sheet.

California Prop. 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

International regulations

Date of issue/Date of revision : 10/27/2021	Date of previous issue : 9/26/2021	Version : 21.03	15/17
RDMI1004A	KRYLON® MARK-IT® Inverted Marking Paint Bright Yellow	SHW-85-NA-GHS-45	

Section 15. Regulatory information

International lists :

- Australia inventory (AIC)**: Not determined.
- China inventory (IECSC)**: Not determined.
- Japan inventory (CSCL)**: Not determined.
- Japan inventory (ISHL)**: Not determined.
- Korea inventory (KECI)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: Not determined.
- Philippines inventory (PICCS)**: Not determined.
- Taiwan Chemical Substances Inventory (TCSI)**: Not determined.
- Thailand inventory**: Not determined.
- Turkey inventory**: Not determined.
- Vietnam inventory**: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		2
Physical hazards		3

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE AEROSOLS - Category 1	On basis of test data
GASES UNDER PRESSURE - Compressed gas	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Calculation method

History

Date of printing : 10/27/2021

Date of issue/Date of revision : 10/27/2021

Date of previous issue : 9/26/2021

Version : 21.03

Section 16. Other information

Key to abbreviations

: ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
UN = United Nations

✔ Indicates information that has changed from previously issued version.

Notice to reader

It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product identifier name: nVent ERICO Cadweld Plus

Other means of identification: Inclusive of material types:
Welding Material - F20 (includes prefixes ACB, ACC and SCC), F80 (includes prefixes SB, PB, ACB, ACC and SCC), F33 (includes prefix CA), XF19 (includes prefix XF), F76

1.2. Recommended use of the chemical and restrictions on use

Application: Exothermic welding material

Restrictions: None specified

1.3. Details of the supplier of the safety data sheet

Manufacturer: nVent
ERICO International Corporation
34600 Solon Road
Solon, Ohio 44139
Tel:(440) 248-0100

Further information can be obtained from: jacob.williams@nvent.com

1.4. Emergency telephone number

Emergency telephone: ChemTel
1-800-255-3924 USA and Canada
+01-813-248-0585 International

SECTION 2: Hazards Identification

2.1. Classification of the chemical

The product is electrical welding material. It is hazardous per OSHA.

OSHA:

Eye Damage Category 1
Acute Toxicity – Oral Category 4
Acute Toxicity – Inhalation Category 4
Combustible Dust

Product Name: nVent ERICO Cadweld Plus
Supersedes Date: 2019-05-31
SDS-ID: CadweldPlus_OSHA

Page 2 of 13
Revision: 2019-12-19
Version Number: Draft 2

Label elements:



Pictograms:

Signal word: Danger

Hazard statements:

Causes serious eye damage

Harmful if swallowed

Harmful if inhaled

May form combustible dust concentrations in air

Precautionary statements:

Avoid breathing dust or fume.

Wash hands and skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves, protective clothing, eye protection and face protection.

If swallowed: Call a poison center or doctor if you feel unwell.

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.

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, doctor, or seek medical attention if molten product contacts eyes or if eye irritation persists after exposure to dust.

Rinse mouth.

Dispose of contents and container in accordance with local, state, national, and international regulations.

2.2. Other hazards

Other:

Improper use of the product or inadequate preparation of the conductors, molds or surroundings can result in aggressive reactions. Self-propagating high temperature reaction will occur if heated above ignition temperature. Generates molten metal in excess of 3632°F, slag and dense, dusty smoke. The molten product can cause serious burns. Inhalation of powder or fumes may cause metal fume fever. Exposure to reaction by-products: See section 8.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Mixtures

Only classified substances above threshold limits are shown.

<u>%</u>	<u>CAS-No.</u>	<u>Chemical Name</u>
25-75	1317-39-1	Cuprous oxide
1-20	1317-38-0	Cupric oxide
1-15	7440-50-8	Copper
1-15	7429-90-5	Aluminum powder (stabilized)

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Molten product will cause skin burns and if in contact with eyes while in a molten state may cause serious damage.

<u>Inhalation:</u>	Inhalation of welding fumes/dust inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.
<u>Skin contact:</u>	Remove contaminated clothes and rinse skin thoroughly with water. If material is hot, treat for thermal burns and get immediate medical attention.
<u>Eye contact:</u>	Dust in the eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring these instructions.
<u>Ingestion:</u>	Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

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

<u>Symptoms/effects:</u>	Inhalation of powder or fumes may cause metal fume fever. Symptoms like headache, fatigue and nausea may appear. See section 11 for more detailed information on health effects and symptoms.
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4.3. Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Burns (in contact with molten metal, slag or hot equipment): Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Extinguish with dry sand and/or flood with large amounts of water.

Extinguishing media which are not suitable: Hand water buckets or hand storage pumps. Molten metal contact with water can cause small pockets of superheated steam.

Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Specific hazards: During fire, gases hazardous to health may be formed.
Ignition temperature: >1742°F

In the event that the packaging materials are ignited, the immediate and direct application of large quantities of water will effectively eliminate the spread of fire to the surrounding areas. The ignition of the packaging materials may, in rare cases, lead to ignition. Direct application of a continuous heavy stream of water is recommended.

Ignition of large quantities of exothermic materials may result in large volumes of dense smoke.

5.1. Advice for firefighters

Protective equipment for firefighters: Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

Remove sources of ignition. Ventilate well.

6.2. Environmental precautions

Environmental precautions: Precaution should be taken to prevent hot material and reaction byproducts from contact with combustible materials in surrounding areas. Avoid spreading dust or contaminated materials. Avoid discharge to the aquatic environment. Contact local authorities in case of spillage to drain/aquatic environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Remove sources of ignition. Sweep up spilled substance and remove to safe place.
For large spills use natural fiber brush or broom with a conductive, non-sparking pan.

6.4. Reference to other sections

Reference: For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Observe good chemical hygiene practices. nVent ERICO Cadweld Plus Welding and Filler Materials are designed for use in nVent ERICO Cadweld equipment only. Use of improper or damaged equipment can lead to exposure to molten metal and reaction byproducts.

Technical measures: Do not smoke or use open fire or other sources of ignition. Work practice should minimize risk of contact. All product instructions should be followed to ensure proper welding and safety.

Technical precautions: Confined space: Local exhaust is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: nVent ERICO Cadweld Plus Welding and Filler Materials should be stored in a clean, dry and secure location. Storage should include provisions to minimize rough handling, excessive vibration and physical abuse. All outer packages must be stored in accordance with label markings.

Storage conditions: If evidence is present of damaged or contaminated products, these units should not be used.

If proper storage is maintained, nVent ERICO Cadweld Plus Materials do not exhibit any storage or shelf life.

7.3. Specific end use(s)

Specific use(s): Welding material

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

A detailed fume analysis was conducted on nVent ERICO Cadweld Plus Welding Material. Reaction byproducts were tested for total dust, respirable dust, metals, acids, fluorides, and various elements identified in typical welding fume analysis. All sampling and analysis followed methodologies dictated by the National Institute of Occupational Safety and Health (NIOSH) and by the U.S. Occupational Safety and Health Administration (OSHA). A certified Industrial Hygienist did the sample collection and independent labs conducted all analytical work.

Data collected was evaluated and compared to limits set by the American Conference of Governmental Industrial Hygienists (ACGIH) and OSHA. As a worst-case scenario, calculations were completed based on a sealed 800 cubic foot room with no ventilation. These calculations indicate that the copper fume PEL would be the limiting factor. Under normal outdoor use or in ventilated areas threshold limits are beyond any expected exposure limits.

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
7429-90-5	Aluminum metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-21-3	Silicon, respirable fraction	-	5 mg/m3	TWA	-	OSHA
7440-21-3	Silicon, total dust	-	15 mg/m3	TWA	-	OSHA
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
	Fluoride	F	2.5 mg/m3	TWA		OSHA
	Fluoride	F	2.5 mg/m3	TWA	A4; BEI	ACGIH

Notes: A4 – Not classifiable as a Human Carcinogen; BEI – Biological Exposure Indices

8.2. Exposure controls

Engineering measures:

Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust and fumes.

Personal protection:

Personal protection equipment should be chosen according to the relevant standards and in discussion with the supplier of the personal protective equipment.

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Respiratory equipment: Normal use precludes use of special protection as material is generally used out of doors, in small quantities and is of short duration. In case of inadequate ventilation and work of long duration or on large surface areas in confined room, wear suitable respiratory equipment for dusts and metal fumes.

Hand protection: Heat insulated protective gloves. Recommended for handling hot equipment.

Eye protection: Wear safety glasses. Avoid looking directly at the light generated by the reaction, unless specialized welding eye protection is used.

Skin protection: Use protective clothing, which covers arms and legs.

Hygiene measures: Wash hands after handling. Change contaminated clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Form: Granular

Color: Gray-black

Odor: Odorless

pH: Not available

Melting point / freezing point: 1999°F

Boiling point: Not relevant

Flash point: Not relevant

Evaporation rate: Not relevant

Flammability: Not flammable

Upper/lower flammability or explosive limits: Not known

Vapor pressure: Not relevant

Vapor density: Not relevant

Relative density/specific gravity (water=1): 5.5

Solubility: Insoluble in water

Partition coefficient (n- octanol/water): Not available

Auto-ignition temperature: >1742°F

Decomposition temperature: Not available

Viscosity: Not relevant

Oxidizing properties: Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: See hazardous reactions.

10.2. Chemical stability

Stability: Stable. Not sensitive to vibrations, shock or impact and is not subject to spontaneous ignition.

10.3. Possibility of hazardous reactions

Hazardous reactions: Aggressive reactions are possible if excess moisture, grease, or other combustible substances are present in the mold, on the connector, or on the conductors to be welded. Care should be taken to ensure proper preparation in accordance with instruction prints.

10.4. Conditions to avoid

Conditions/materials to avoid: Temperatures above ignition point.

10.5. Incompatible materials

Incompatible materials: Typical of problems associated with molten metals.

Hazardous decomposition products

Hazardous decomposition products: None under normal conditions. Polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity (oral): Harmful if swallowed, based on Cuprous oxide component.

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalation): Harmful if inhaled, based on Cuprous oxide component.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Eye damage/irritation: Causes serious eye damage from Cuprous oxide component.

Respiratory sensitization: Based on available data, the classification criteria are not met.

Skin sensitization: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met. Components are not

listed as carcinogens by the NTP, IARC, or OSHA at 29 CFR 1910 Subpart Z.

<u>Reproductive toxicity:</u>	Based on available data, the classification criteria are not met.
<u>STOT - Single exposure:</u>	Based on available data, the classification criteria are not met.
<u>STOT- Repeated exposure:</u>	Based on available data, the classification criteria are not met.
<u>Aspiration hazard:</u>	Based on available data, the classification criteria are not met.
<u>Inhalation:</u>	Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.
<u>Skin contact:</u>	Dust may have an irritating effect on moist skin. Prolonged and/or repeated contact: May cause eczema-like skin disorders (dermatitis). The molten product can cause serious burns.
<u>Eye contact:</u>	Particles/fumes in the eyes may cause discomfort/irritation.
<u>Ingestion:</u>	Ingestion may cause nausea, headache, dizziness and intoxication.
<u>Specific effects:</u>	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Copper oxides may by repeated or prolonged inhalation occasionally cause ulceration and perforation of the nasal septum. Long term exposure to copper containing dusts may cause allergic dermatitis.
<u>Toxicological data:</u>	LD ₅₀ (oral, rat): 1340 mg/kg (Cuprous oxide); No LC ₅₀ data available. Cuprous oxide is noted as Acute Toxicity – Inhalation Category 4 per ECHA harmonized classification scheme.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

<u>Ecotoxicity:</u>	Very toxic to aquatic organisms with long-term adverse effects in the aquatic environment. M-factor (acute) Cuprous oxide: 100 Cupric oxide: 100
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12.2. Persistence and degradability

<u>Degradability:</u>	The product solely consists of inorganic compounds which are not biodegradable.
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12.3. Bioaccumulative potential

<u>Bioaccumulative potential:</u>	No data available on bioaccumulation.
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12.4. Mobility in soil

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Mobility: The product is not volatile but may be spread by dust-raising handling.

12.5. Results of PBT and vPvB assessment

PBT/vPvB: This product does not contain any PBT or vPvB substances.

12.6. Other adverse effects

Other adverse effects: None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with applicable authority requirements.

SECTION 14: TRANSPORTATION INFORMATION

This product is not a hazardous material per US transportation regulations. Due to the minimal quantity (5 kg or less) per inner package, nVent ERICO Cadweld Plus Welding Material is excepted from all international transport regulations except the general packaging requirements. No transportation marks, labels, placards, shipping papers, etc. are required, as packaged by nVent.

If larger package quantities are shipped internationally or on an IATA airline, use the dangerous goods information in section 14.2 to determine all applicable regulations.

14.1. DOT Classification for Domestic (U.S. Only) Ground, Air, and Vessel

Not regulated as hazardous material by DOT.

14.2. ICAO/IATA/IMO Classification

Identification number: UN 3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CUPROUS OXIDE, CUPRIC OXIDE)

Class: 9

Packing group: III

Environmentally hazardous to the aquatic environment/marine pollutant: Yes

SECTION 15: REGULATORY INFORMATION

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

National regulation: Local, state, and national and regulations may apply.



SAFETY DATA SHEET

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TSCA:

The ingredients in this product are on the TSCA Inventory.

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SARA Title III: Section 302 Extremely Hazardous Substance: Not reportable
 Section 304: Not reportable
 Section 311/312 Hazard Category: Immediate (acute)
 Section 313: Aluminum (fume or dust), copper and copper compounds are subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (EPCRA or SARA Title III) and 40 CFR 372.

CERCLA RQ: Copper = 5,000 pounds (particles of 100 micrometers or less)
 Copper compounds are CERCLA hazardous substances but no RQ is assigned,

15.2. Chemical safety assessment

CSA status: No information available.

SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of this SDS.

Abbreviations and acronyms:

ACGIH	American Conference of Industrial Hygienists
CAS No.	Chemical Abstracts Service registry number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOT HMR	Department of Transportation Hazardous Materials Regulations
ECHA	European Chemicals Agency
IARC	International Agency for Research on Cancer
IATA DGR	International Air Transport Association Dangerous Goods Regulations
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
LC ₅₀ /LD ₅₀	Lethal concentration/dose to 50% of exposed laboratory animals
NIOSH	US National Institute of Occupational Safety and Health
n.o.s.	Not otherwise specified
NTP	National Toxicology Program
OSHA	US Occupational Safety Health Administration
PBT	Persistent, bioaccumulative and toxic
PEL	Permissible exposure limit
RQ	Reportable quantity
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety data sheet

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STOT	Specific target organ toxicity
Tel	Telephone number
TSCA	Toxic Substances Control Act
TWA	Time weighted average
UN	United Nations
US/USA	United States
vPvB	Very persistent and very bioaccumulative

Additional information: OSHA information based on 29 CFR 1910.1200.

Transportation information based on 49 CFR 173, 2020 IATA DGR and 2018 IMDG Code.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

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SECTION 1: IDENTIFICATION

1.1. Product identifier

Product identifier name: nVent ERICO Cadweld

Other means of identification: Inclusive of material types-

Starting Material

Welding Material - F20 (includes prefixes ACB, ACC and SCC), F80 (includes prefixes SB, PB, ACB, ACC and SCC), F33 (includes prefix CA), XF19 (includes prefix XF), F76

1.2. Recommended use of the chemical and restrictions on use

Application: Exothermic welding material

Restrictions: None specified

1.3. Details of the supplier of the safety data sheet

Manufacturer: nVent
ERICO International Corporation
34600 Solon Road
Solon, Ohio 44139
Tel: (440) 248-0100

Further information can be obtained from: jacob.williams@nvent.com

1.4. Emergency telephone number

Emergency telephone: ChemTel
1-800-255-3924 USA and Canada
+01-813-248-0585 International

SECTION 2: Hazards Identification

2.1. Classification of the chemical

The inner packaging contains two distinct, separate layers of chemicals. The smaller layer is Starting Material used as an ignition component for the larger layer of Welding Material. Both chemicals are hazardous per OSHA.

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OSHA:

Starting Material -

Flammable Solid Category 1

Eye Damage Category 1

Combustible Dust

Welding Material -

Eye Damage Category 1

Acute Toxicity – Oral Category 4

Acute Toxicity – Inhalation Category 4

Combustible Dust

Label elements (combined for Starting Material and Welding Material)



Pictograms:

Signal word: Danger

Hazard statements:

Flammable solid

Causes serious eye damage

Harmful if swallowed

Harmful if inhaled

May form combustible dust concentrations in air

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Precautionary statements:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Ground and bond container and receiving equipment.
 Use explosion-proof electrical, ventilating, lighting, and other equipment.
 Avoid breathing dust or fume.
 Wash hands and skin thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves, protective clothing, eye protection and face protection.
 If swallowed: Call a poison center or doctor if you feel unwell.
 If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.
 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, doctor, or seek medical attention if molten product contacts eyes or if eye irritation persists after exposure to dust.
 Rinse mouth.
 In case of fire: Use dry sand or large amounts of water to extinguish.
 Dispose of contents and container in accordance with local, state, national, and international regulations.

2.2. Other hazards

Other: Improper use of the product or inadequate preparation of the conductors, molds or surroundings can result in aggressive reactions. Self-propagating high temperature reaction will occur if heated above ignition temperature. Generates molten metal in excess of 2498°F (Starting Material), slag and dense, dusty smoke. The molten product can cause serious burns. Inhalation of powder or fumes may cause metal fume fever. Exposure to reaction by-products: See section 8.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Mixtures

Only classified substances above threshold limits are shown.

Starting Material (smaller layer)

<u>%</u>	<u>CAS-No.</u>	<u>Chemical Name</u>
30-40	7429-90-5	Aluminum powder (stabilized)
1-25	1317-38-0	Cupric oxide
1-25	1317-39-1	Cuprous oxide

Welding Material (larger layer)

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<u>%</u>	<u>CAS-No.</u>	<u>Chemical Name</u>
25-75	1317-39-1	Cuprous oxide
1-20	1317-38-0	Cupric oxide
1-15	7440-50-8	Copper
1-15	7429-90-5	Aluminum powder (stabilized)

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Molten product will cause skin burns and if in contact with eyes while in a molten state may cause serious damage.

Inhalation: Inhalation of welding fumes/dust inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. If material is hot, treat for thermal burns and get immediate medical attention.

Eye contact: Dust in the eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

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

Symptoms/effects: Chronic inhalation of powder or fumes without proper ventilation or protection may cause symptoms similar to metal fume fever. See section 11 for more detailed information on health effects and symptoms.

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

Medical attention/treatments: Burns (in contact with molten metal, slag or hot equipment): Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Extinguish with dry sand and/or flood with large amounts of water.

Extinguishing media which are not suitable: Hand water buckets or hand storage pumps. Molten metal contact with water can cause small pockets of superheated steam.

Use fire-extinguishing media appropriate for surrounding materials.

5.2. Special hazards arising from the substance or mixture

Specific hazards: During fire, gases hazardous to health may be formed.
 Ignition temperature: >849°F (Starting Material); >1742°F (Welding Material)

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Ignition of large quantities of exothermic materials may result in large volumes of dense smoke.

5.3. Advice for firefighters

Protective equipment for firefighters: Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

Remove sources of ignition. Ventilate well.

6.2. Environmental precautions

Environmental precautions: Precaution should be taken to prevent hot material and reaction byproducts from contact with combustible materials in surrounding areas. Avoid spreading dust or contaminated materials. Avoid discharge to the aquatic environment. Contact local authorities in case of spillage to drain/aquatic environment.

6.3. Methods and material for containment and cleaning up

Spill cleanup methods: Remove sources of ignition. Sweep up spilled substance and remove to safe place. For large spills use natural fiber brush or broom with a conductive, non-sparking pan.

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6.4. Reference to other sections

Reference: For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Observe good chemical hygiene practices. nVent ERICO Cadweld Starting, Welding and Filler Materials are designed for use in nVent ERICO Cadweld equipment only. Use of improper or damaged equipment can lead to exposure to molten metal and reaction byproducts.

Technical measures: Do not smoke or use open fire or other sources of ignition. Work practice should minimize risk of contact. All product instructions should be followed to ensure proper welding and safety.

Technical precautions: Confined space: Local exhaust is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: nVent ERICO Cadweld Starting, Welding and Filler Materials should be stored in a clean, dry and secure location. Storage should include provisions to minimize rough handling, excessive vibration and physical abuse. All outer packages must be stored in accordance with label markings.

Storage conditions: If evidence is present of damaged or contaminated products, these units should not be used.

If proper storage is maintained, nVent ERICO Cadweld Materials do not exhibit any storage or shelf life.

7.3. Specific end use(s)

Specific use(s): Welding material with ignition component included

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

A detailed fume analysis was conducted on nVent ERICO Cadweld Starting and Welding Materials. Reaction byproducts were tested for total dust, respirable dust, metals, acids, fluorides, and various elements identified in typical welding fume analysis. All sampling and analysis followed methodologies dictated by the National Institute of Occupational Safety and Health (NIOSH) and by the U.S. Occupational Safety and Health Administration (OSHA). A certified Industrial Hygienist did the sample collection and independent labs conducted all analytical work.

Data collected was evaluated and compared to limits set by the American Conference of Governmental Industrial Hygienists (ACGIH) and OSHA.

Starting Material: No threshold limits are attainable with use of this product as intended.

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
7429-90-5	Aluminum, metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum, metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
1309-37-1	Iron oxide fume	-	10 mg/m3	TWA	-	OSHA
-	Iron oxide (Fe2O3), respirable fraction	-	5 mg/m3	TWA	A4	ACGIH

Notes: A4: Not classifiable as a Human Carcinogen

Welding Material: As a worst-case scenario, calculations were completed based on a sealed 800 cubic foot room with no ventilation. These calculations indicate that the copper fume PEL would be the limiting factor. Under normal outdoor use or in ventilated areas threshold limits are beyond any expected exposure limits.

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
7429-90-5	Aluminum metal, respirable fraction	Al	5 mg/m ³	TWA	-	OSHA
7429-90-5	Aluminum metal, total dust	Al	15 mg/m ³	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m ³	TWA	A4	ACGIH
7440-21-3	Silicon, respirable fraction	-	5 mg/m ³	TWA	-	OSHA
7440-21-3	Silicon, total dust	-	15 mg/m ³	TWA	-	OSHA
7440-50-8	Copper, dusts and mists	Cu	1 mg/m ³	TWA	-	OSHA
7440-50-8	Copper, dusts and mists	Cu	1 mg/m ³	TWA	-	ACGIH
7440-50-8	Copper, fume	Cu	0.1 mg/m ³	TWA	-	OSHA
7440-50-8	Copper, fume	-	0.2 mg/m ³	TWA	-	ACGIH
	Fluoride	F	2.5 mg/m ³	TWA		OSHA
	Fluoride	F	2.5 mg/m ³	TWA	A4; BEI	ACGIH

Notes: A4 – Not classifiable as a Human Carcinogen; BEI – Biological Exposure Indices

8.2. Exposure controls

- Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of dust and fumes.
- Personal protection: Personal protection equipment should be chosen according to the relevant standards and in discussion with the supplier of the personal protective equipment.
- Respiratory equipment: Normal use precludes use of special protection as material is generally used out of doors, in small quantities and is of short duration. In case of inadequate ventilation and work of long duration or on large surface areas in confined rooms, wear suitable respiratory equipment for dusts and metal fumes.
- Hand protection: Heat insulated protective gloves. Recommended for handling hot equipment.
- Eye protection: Wear safety glasses. Avoid looking directly at the light generated by the reaction, unless specialized welding eye protection is used.
- Skin protection: Use protective clothing, which covers arms and legs.
- Hygiene measures: Wash hands after handling. Change contaminated clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

	Starting Material (smaller layer)	Welding Material (larger layer)
Form:	Powder	Granular
Color:	Gray-black	Gray-black
Odor:	Odorless	Odorless
pH:	Not available	Not available
Melting point/freezing point:	1112°F	1999°F
Boiling point:	Not relevant	Not relevant
Flash point:	Not relevant	Not relevant
Evaporation rate:	Not relevant	Not relevant
Flammability:	Flammable	Not flammable
Upper/lower flammability or explosive limits:	Not known	Not known
Vapor pressure:	Not relevant	Not relevant
Vapor density:	Not relevant	Not relevant
Relative density/specific gravity (water=1):	4.0	5.5
Solubility:	Insoluble in water	Insoluble in water
Partition coefficient (n-octanol/water):	Not available	Not available
Auto-ignition temperature:	>849°F	>1742°F
Decomposition temperature:	Not available	Not available
Viscosity:	Not relevant	Not relevant
Oxidizing properties:	Not available	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: See hazardous reactions.

10.2. Chemical stability

Stability: Stable. Not sensitive to vibrations, shock or impact and is not subject to spontaneous ignition.

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10.3. Possibility of hazardous reactions

Hazardous reactions: Aggressive reactions are possible if excess moisture, grease, or other combustible substances are present in the mold, on the connector, or on the conductors to be welded. Care should be taken to ensure proper preparation in accordance with instruction prints.

10.4. Conditions to avoid

Conditions/materials to avoid: Temperatures above ignition point. >849°F (Starting Material)

10.5. Incompatible materials

Incompatible materials: Typical of problems associated with molten metals.

10.6. Hazardous decomposition products

Hazardous decomposition products: None under normal conditions. Polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- Acute toxicity (oral): Harmful if swallowed, based on Cuprous oxide component.
- Acute toxicity (dermal): Based on available data, the classification criteria are not met.
- Acute toxicity (inhalation): Harmful if inhaled, based on Cuprous oxide component.
- Skin corrosion/irritation: Based on available data, the classification criteria are not met.
- Eye damage/irritation: Causes serious eye damage from Cuprous oxide component.
- Respiratory sensitization: Based on available data, the classification criteria are not met.
- Skin sensitization: Based on available data, the classification criteria are not met.
- Germ cell mutagenicity: Based on available data, the classification criteria are not met.
- Carcinogenicity: Based on available data, the classification criteria are not met. Components are not listed as carcinogens by the NTP, IARC, or OSHA at 29 CFR 1910 Subpart Z.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT - Single exposure: Based on available data, the classification criteria are not met.
- STOT - Repeated exposure: Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

- Inhalation: Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.
- Skin contact: Dust may have an irritating effect on moist skin. Prolonged and/or repeated contact: May cause eczema-like skin disorders (dermatitis). The molten product can cause serious burns.

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SDS-ID: Cadweld_OSHA

Version Number: Draft 2

<u>Eye contact:</u>	Particles/fumes in the eyes may cause discomfort/irritation.
<u>Ingestion:</u>	Ingestion may cause nausea, headache, dizziness and intoxication.
<u>Specific effects:</u>	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Copper oxides may by repeated or prolonged inhalation occasionally cause ulceration and perforation of the nasal septum. Long term exposure to copper containing dusts may cause allergic dermatitis.
<u>Toxicological data:</u>	LD ₅₀ (oral, rat): 1340 mg/kg (Cuprous oxide) No LC ₅₀ data available. Cuprous oxide is noted as Acute Toxicity – Inhalation Category 4 for Welding Material per ECHA harmonized classification scheme.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

<u>Ecotoxicity:</u>	Very toxic to aquatic organisms with long-term adverse effects in the aquatic environment. M-factor (acute) Cuprous oxide: 100 Cupric oxide: 100
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12.2. Persistence and degradability

<u>Degradability:</u>	The product solely consists of inorganic compounds which are not biodegradable.
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12.3. Bioaccumulative potential

<u>Bioaccumulative potential:</u>	No data available on bioaccumulation.
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12.4. Mobility in soil

<u>Mobility:</u>	The product is not volatile but may be spread by dust-raising handling.
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12.5. Results of PBT and vPvB assessment

<u>PBT/vPvB:</u>	This product does not contain any PBT or vPvB substances.
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12.6. Other adverse effects

<u>Other adverse effects:</u>	None known.
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SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with applicable authority requirements.

SECTION 14: TRANSPORT INFORMATION

The product is a hazardous material/dangerous good per US and international transportation regulations. As prepared by nVent, with minimal quantities present per inner and outer packaging, excepted/small quantity and marine pollutant exceptions apply for ground, air, and vessel transport.

14.1. DOT Classification for Domestic (U.S. Only) Ground, Air, and Vessel

<u>Identification number:</u>	UN3089
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Product Name: nVent ERICO Cadweld

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Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

Class: 4.1

Packing group: II

Environmentally hazardous to the aquatic environment/marine pollutant: No

Notes: Starting Material limited to 30 g per inner package with outer package gross weight limit of 29 kg for small quantities exception or limited to 30 g per inner package and 500 g per outer package for excepted quantities. Welding Material is not a hazardous material per DOT.

14.2. ICAO/IATA Classification for Domestic/International Air Required by Most Airlines

Identification number: UN3089

Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.

Class: 4.1

Packing group: II

Environmentally hazardous to the aquatic environment/marine pollutant: Exception applies due to 4.1 classification

Notes: Starting Material limited to 30 g per inner package and 500 g per outer package for excepted quantities. Welding Material limited to 5 kg per inner package for exception for marine pollutants.

SECTION 15: REGULATORY INFORMATION

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

National regulations: Local, state, and national regulations may apply.

TSCA: The ingredients in this product are on the TSCA Inventory.

SARA Title III: Section 302 Extremely Hazardous Substance: Not reportable

Section 304: Not reportable

Section 311/312 Hazard Categories: Immediate (acute), Fire

Section 313: Aluminum (fume or dust), copper and copper compounds are subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (EPCRA or SARA Title III) and 40 CFR 372.

CERCLA RQ: Copper = 5,000 pounds (particles of 100 micrometers or less)

Copper compounds are CERCLA hazardous substances but no RQ is assigned,

15.2. Chemical safety assessment

CSA status: No information available.

SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of this SDS.

Abbreviations and acronyms:

Product Name: nVent ERICO Cadweld

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Version Number: Draft 2

ACGIH	American Conference of Industrial Hygienists
CAS No.	Chemical Abstracts Service registry number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOT HMR	Department of Transportation Hazardous Materials Regulations
ECHA	European Chemicals Agency
IARC	International Agency for Research on Cancer
IATA DGR	International Air Transport Association Dangerous Goods Regulations
ICAO	International Civil Aviation Organization
LC ₅₀ /LD ₅₀	Lethal concentration/dose to 50% of exposed laboratory animals
NIOSH	US National Institute of Occupational Safety and Health
n.o.s.	Not otherwise specified
NTP	National Toxicology Program
OSHA	US Occupational Safety Health Administration
PBT	Persistent, bioaccumulative and toxic
PEL	Permissible exposure limit
RQ	Reportable quantity
SARA	Superfund Amendments and Reauthorization Act
<hr/>	
SDS	Safety data sheet
STOT	Specific target organ toxicity
Tel	Telephone number
TSCA	Toxic Substances Control Act
TWA	Time weighted average
UN	United Nations
US/USA	United States
vPvB	Very persistent and very bioaccumulative

Additional information: Hazard classification and other information based on 29 CFR 1910.1200 for OSHA, and on 49 CFR Part 173 and 2020 IATA Dangerous Goods Regulations for DOT/IATA transportation.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.



Revision date: 08.11.16
Date of issue: 05.02.2018

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Trade name:	Clear Glide™ Wire Pulling Lubricant
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SECTION 1: Identification

Product identifier: Clear Glide™ Wire Pulling Lubricant.
Synonyms: None available.
Product Code Number: 31-388(-6), 31-381, 31-385(G), 31-2143.
SDS number: ID006
Recommended use: Wire Pulling Lubricant.
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Name: Darryl Docter.
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Physical hazards
Not classified as a physical hazard under GHS criteria

Health hazards
Not classified as a health hazard under GHS criteria.

Environmental hazards
Not classified as an environmental hazard under GHS criteria.

GHS Signal word: Not applicable.
GHS Hazard statement(s): Not applicable.
GHS Hazard symbol(s): Not applicable.

GHS Precautionary statement(s):

- Prevention:** No prevention precautionary phrases.
- Response:** No response precautionary phrases.
- Storage:** No storage precautionary phrases.
- Disposal:** No disposal precautionary phrases.

Hazard(s) not otherwise

Classified (HNOC): None known.

Percentage of ingredient(s) of unknown acute toxicity:

Not applicable.

SECTION 3: Composition/information on ingredients

Mixture:

Chemical name	Concentration (weight %)	CAS#
Not applicable		

There are no ingredients present at above the cut off concentrations for GHS classification and therefore the product is not classified as hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SECTION 4: First-aid Measures

Description of necessary measures:

Inhalation: If inhaled, move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms persist.

Skin contact: In case of contact, Wash skin with soap and for at least 15 minutes. Remove contaminated clothing and thoroughly clean before reuse. Get medical attention if symptoms persist.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

Ingestion: Administer water or milk. Do NOT induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Consult physician or local poison control center.

Most important symptoms/effects, acute and delayed: None expected.

Indication of immediate medical attention and special treatment needed: If any symptoms are observed, contact a physician and give them this SDS sheet. If exposed or concerned: Get medical advice/attention.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: Not flammable. Use extinguishing media suitable for surrounding materials.

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: None expected.
Combustion products - Oxides of carbon, nitrogen and silicone.

Special protective equipment and precautions for fire-fighters: For fire involving this material, do not enter any enclosed or confined fire space without proper protective equipment. Use self-contained breathing apparatus with full face shield to protect against the hazardous effects of combustion products and oxygen deficiencies.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Stay upwind and away from spill/release. For large spillages, notify persons downwind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Methods and material for containment and cleaning up:

Stop spill at source. Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required.

SECTION 7: Handling and Storage

Precautions for safe handling: Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Conditions for safe storage, including any incompatibles: Store at temperatures between 40 - 180 F. Avoid freezing. Keep away from children, infants and pets. Keep in dry location. Keep container(s) tightly closed and properly labeled. Store only in approved containers. Keep

away from any incompatible material (see Section 10). Protect container(s) against physical damage. Avoid prolonged storage at temperatures exceeding 190 F.

"Empty" containers retain residue and may be dangerous. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 8: Exposure controls/personal protection

Control Parameters:

Occupational exposure limits:

US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200): Permissible Exposure Limits		
Substance	PEL-TWA (8 hour)	PEL-STEL (15 min)
2-Amino-2-methyl-1-propanol	None established	None established

US ACGIH Threshold Limit Values		
Substance	TLV-TWA (8 hour)	TLV-STEL (15 min)
2-Amino-2-methyl-1-propanol	None established	None established

NIOSH Exposure Limits		
Substance	TWA	STEL
2-Amino-2-methyl-1-propanol	None established	None established

Appropriate engineering controls: General (mechanical) room ventilation is expected to be adequate. Additional means of room ventilation may be required in closed areas.

Individual protection measures, such as personal protective equipment:

Eye/face protection: The use of OSHA compliant Safety glasses or splash goggles are recommended.

Skin and Hand protection: None normally required.

Respiratory protection: None normally required. Where protection from nuisance levels of dusts are desired, use type N95 (US) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH/OSHA.

Other: None required.

Thermal hazards: No data available.

SECTION 9: Physical and chemical properties

Appearance

Physical state:	Gel
Form:	Clear, colorless gel.
Color:	Colorless.
Odor:	Slight odor.
Odor threshold:	No data available
pH:	7.0 - 8.0
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	212°F (100°C)
Flash point:	None
Evaporation rate:	No data available
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit – lower (%):	Not applicable
Flammability limit – upper (%):	Not applicable
Explosive limit – lower (%):	Not applicable
Explosive limit – upper (%):	Not applicable
Vapor pressure:	No data available
Vapor density:	No data available
Relative Density:	1.09
Solubility(ies):	Infinite in water.
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	25300-40300 cps
Other information:	
% Volatile by volume:	< 98%
Volatile Organic Compounds (VOC) (as packaged, minus water)	17.4 gms/ltr
Percent solids by weight:	~ 5%

SECTION 10: Stability and Reactivity

Reactivity:	Not chemically reactive.
Chemical stability:	Stable under normal ambient and anticipated conditions of use.
Possibility of hazardous reactions:	Hazardous reactions not anticipated.
Conditions to avoid:	Avoid prolonged storage at temperatures exceeding 190 F.

Incompatible materials: Avoid strong oxidizers and nitrites.
Hazardous decomposition Products: Oxides of carbon, nitrogen and silicone.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation: Not an expected route of entry.
Ingestion: Not an expected route of entry.
Skin: Expected to be a primary route of entry.
Eyes: Not an expected route of entry.

Symptoms related to the physical, chemical, and toxicological characteristics:
None normally expected.

Delayed and immediate effects and chronic effects from short or long-term exposure:
Upon prolonged contact, may cause temporary eye discomfort.

Numerical measures of toxicity:

Ingredient Information:

Substance	Test Type (species)	Value
2-Amino-2-methyl-1-propanol	LD ₅₀ Oral (Rat)	2900 mg/kg
	LD ₅₀ Dermal (Rabbit)	> 2000 mg/kg
	LC ₅₀ Inhalation (Rat)	No data available

Product Acute Toxicity Estimates:

Acute Oral Toxicity – no data available
Acute Dermal Toxicity - no data available
Acute Inhalation Toxicity - no data available

Skin corrosion/irritation: No information available on the mixture, however none of the components have been classified to cause skin corrosion/irritation (or are below the concentration threshold for classification).

Serious eye damage/eye irritation: No information available on the mixture, however none of the components have been classified to cause eye damage/irritation (or are below the concentration threshold for classification).

Respiratory sensitization: No information available on the mixture, however none of the components have been classified as a respiratory sensitizer (or are below the concentration threshold for classification).

Skin sensitization:	No information available on the mixture, however none of the components have been classified as a skin sensitizer (or are below the concentration threshold for classification).
Germ cell mutagenicity:	No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).
Carcinogenicity:	No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).
Reproductive toxicity:	No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).
Specific target organ toxicity- Single exposure:	No information available on the mixture, however none of the components have been classified for STOT SE (or are below the concentration threshold for classification).
Specific target organ toxicity- Repeat exposure:	No information available on the mixture, however none of the components have been classified for STOT RE (or are below the concentration threshold for classification).
Aspiration hazard:	No information available on the mixture, however none of the components have been classified for aspiration hazard (or are below the concentration threshold for classification).
Further information:	No data available.

SECTION 12: Ecological information

Ecotoxicity:

Product data: No data available

Ingredient Information:

Substance	Test Type	Species	Value
2-Amino-2-methyl-1-propanol	LC ₅₀	Lepomis macrochirus (Bluegill sunfish)	190 mg/l (96h)
	LC ₅₀	Aquatic invertebrate – Daphnia magna (water flea)	193 mg/l (48h)
	EyC ₅₀	Algae - Scenedesmus sp	565.5 mg/l (72h)

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal instructions:

Contact a licensed professional waste disposal service to dispose of this material. The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

SECTION 14: Transport Information

DOT: This material is not classified as dangerous under DOT regulations.

IATA: This material is not classified as dangerous under IATA regulations.

IMDG: This material is not classified as dangerous under IMDG regulations.

SECTION 15: Regulatory Information

Safety, health and environmental regulations specific for the product.

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311,312 and 313:

Section 302 – No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

CERCLA Hazardous Substance List, 40 CFR 302.4:

None listed.

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

None listed.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None listed.

SARA Title III

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed.

Section 311/312 (40 CFR 370):

Acute Health Hazard: No

Chronic Health Hazard: No

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

Section 313 Toxic Release Inventory (40 CFR 372):

This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA: None

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986): None of the components are listed on Prop 65 as a carcinogen.

Massachusetts Right to Know: None of the components are listed on the Massachusetts Right to Know List.

Minnesota Hazardous Substance List: None of the components are listed on the Minnesota Hazardous Substance List.

New Jersey Right to Know: None of the components are listed on the New Jersey Right to Know list.

Pennsylvania Right to Know: None of the components are listed on the Pennsylvania Right to Know List.

Canada WHMIS Hazard Class: Not hazardous under WHMIS

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

Revision Date: May 2, 2015

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.



Revision date: Initial version
Date of issue: 8-2-18

Page: 1/10

Trade name: **YELLOW 77[®] PRO Wire Pulling Lubricant**

SECTION 1: Identification

Product identifier: YELLOW 77[®] PRO Wire Pulling Lubricant.
Synonyms: None available.
Product Code Number: All "31" Series.
SDS number: ID022
Recommended use: Wire Pulling Lubricant.
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Name: Darryl Docter.
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

Physical hazards

Not classified as a physical hazard under GHS criteria.

Health hazards

Not classified as a health hazard under GHS criteria

Environmental hazards

Not classified as an environmental hazard under GHS criteria.

GHS Signal word: **Not applicable.**

GHS Hazard statement(s): Not applicable.

GHS Hazard symbol(s): Not applicable

GHS Precautionary statement(s):

Prevention:

No prevention precautionary statements required.

Response:

No response precautionary statements required

Storage:

No storage precautionary statements required.

Disposal:

No disposal precautionary statements required.

Hazard(s) not otherwise

Classified (HNOC): None known.

Percentage of ingredient(s) of unknown acute toxicity:

Not applicable

SECTION 3: Composition/information on ingredients

Mixture: Water-Wax Emulsion

Chemical name	CAS#	Concentration (weight %)
None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200		

SECTION 4: First-aid Measures

Description of necessary measures:

Inhalation: Move to fresh air. Get medical attention if symptoms develop.

Skin contact: Wash off with warm water and soap for 15 minutes. Get medical attention if irritation develops or persists.

Eye contact: Flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Ingestion: Induce vomiting. Consult physician or local poison control center.

Most important symptoms/effects, acute and delayed: None normally expected. Upon prolonged contact, may cause temporary eye discomfort. If material is used in extreme heat (>120° F), prolonged and repeated exposure could pose a risk of pulmonary disease.

Indication of immediate medical attention and special treatment needed: If any symptoms are observed, contact a physician and give them this SDS sheet.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: Not flammable by OSHA criteria. Use extinguishing media suitable for surrounding materials.

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: None expected.

Combustion products - Excessive heat and burning may release oxides of carbon and nitrogen.

Special protective equipment and precautions for fire-fighters: Containers should be cooled with water to prevent vapor pressure build up. Cool containers with flooding quantities of water until well after fire is out. Move containers from fire area if you can do so without risk. For fire involving this material, do not enter any enclosed or confined fire space without proper protective equipment. Use self-contained breathing apparatus with full face shield to protect against the hazardous effects of combustion products and oxygen deficiencies.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Methods and material for containment and cleaning up:

Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.

SECTION 7: Handling and Storage

Precautions for safe handling: Keep away from children, infants and pets. Avoid contact with skin. Avoid contact with eyes. Wear personal protective equipment. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Conditions for safe storage, including any incompatibles:

Store at temperatures between 40 - 120° F. Avoid freezing.

SECTION 8: Exposure controls/personal protection

Control Parameters:

Occupational exposure limits:

US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200): Permissible Exposure Limits		
Substance	PEL-TWA (8 hour)	PEL-STEL (15 min)
Not applicable		

US ACGIH Threshold Limit Values		
Substance	TLV-TWA (8 hour)	TLV-STEL (15 min)
Not applicable		

USA. Workplace Environmental Exposure Levels (WEEL)		
Substance	TWA	STEL
Not applicable		

Appropriate engineering controls: General (mechanical) room ventilation is expected to be adequate. Special local ventilation is recommended to keep mists below exposure limits. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Individual protection measures, such as personal protective equipment:

Eye/face protection: The use of safety glasses or splash goggles are recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US).

Skin and Hand protection: None normally required. If worn, use neoprene. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection: No personal respiratory protective equipment normally required.

Other: Eye fountain in work area is recommended.

Thermal hazards: No data available.

SECTION 9: Physical and chemical properties

- Appearance**
- Physical state:** Paste
- Form:** Yellow paste.
- Color:** Yellow.
- Odor:** Slight odor.
- Odor threshold:** No data available

pH:	7.0-8.5.
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	212°F 100°C
Flash point:	None
Evaporation rate:	No data available
Flammability (solid, gas):	The product is not flammable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%):	Not applicable
Flammability limit – upper (%):	Not applicable
Explosive limit – lower (%):	Not applicable
Explosive limit – upper (%):	Not applicable
Vapor pressure:	No data available
Vapor density:	No data available
Relative Density:	0.98
Solubility(ies):	Moderate
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	81000 cps @ 1 rpm 158°F 87500 cps @ 1 rpm 77°F
Other information:	
Percent volatile by volume (%):	< 90%
Percent solid by weight:	~20%

SECTION 10: Stability and Reactivity

Reactivity:	Not chemically reactive.
Chemical stability:	Stable under normal ambient and anticipated conditions of use.
Possibility of hazardous reactions:	Hazardous reactions not anticipated.
Conditions to avoid:	None expected.
Incompatible materials:	Avoid strong oxidizers.
Hazardous decomposition Products:	Excessive heat and burning may release oxides of carbon and nitrogen.

SECTION 11: Toxicological information

Information on likely routes of exposure:	
Inhalation:	Not an expected route of entry.
Ingestion:	Not an expected route of entry.
Skin:	Skin contact is a primary route of entry.
Eyes:	Not an expected route of entry.

Symptoms related to the physical, chemical, and toxicological characteristics:

None normally expected. If material is used in extreme heat (>120° F), prolonged and repeated exposure could pose a risk of pulmonary disease.

Delayed and immediate effects and chronic effects from short or long-term exposure:
Upon prolonged contact, may cause temporary eye discomfort.

Numerical measures of toxicity:
Ingredient Information:

Substance	Test Type (species)	Value
Not applicable	LD ₅₀ Oral (Rat)	
	LD ₅₀ Dermal (Rabbit)	
	LC ₅₀ Inhalation (Rat)	

Product Acute Toxicity Estimates:

Acute Oral Toxicity – no data available
Acute Dermal Toxicity - no data available
Acute Inhalation Toxicity - no data available

Skin corrosion/irritation: No information available on the mixture, however none of the components have been classified as skin corrosive/irritant (or are below the concentration threshold for classification).

Serious eye damage/eye irritation: No information available on the mixture, however none of the components have been classified as causing eye damage/eye irritation (or are below the concentration threshold for classification).

Respiratory sensitization: No information available on the mixture, however none of the components have been classified as a respiratory sensitizer (or are below the concentration threshold for classification).

Skin sensitization: No information available on the mixture, however none of the components have been classified as a skin sensitizer (or are below the concentration threshold for classification).

Germ cell mutagenicity: No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

Carcinogenicity: No information available on the mixture, however none of the components are listed in the National

Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.

Reproductive toxicity:

No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

**Specific target organ toxicity-
 Single exposure:**

No information available on the mixture, however none of the components have been classified for STOT SE (or are below the concentration threshold for classification).

**Specific target organ toxicity-
 Repeat exposure:**

No information available on the mixture, however none of the components have been classified for STOT RE (or are below the concentration threshold for classification).

Aspiration hazard:

No information available on the mixture, however none of the components have been classified for Aspiration hazard (or are below the concentration threshold for classification).

Further information:

No data available.

SECTION 12: Ecological information

Ecotoxicity:

Product data: No data available

Ingredient Information:

Substance	Test Type	Species	Value
Not applicable	LC ₅₀	Fish	
	LC ₅₀	Aquatic Invertebrates	
	EC ₅₀	Algae	

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

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

SECTION 13: Disposal considerations

Disposal instructions:

This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)

This material is not classified as dangerous under DOT regulations.

IMDG

This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations

Environmental hazards

Marine pollutant: No.

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

No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

None.

SECTION 15: Regulatory Information

Safety, health and environmental regulations specific for the product.

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All substances in this product are exempt from the TSCA inventory.

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311,312 and 313:

Section 302 – No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

CERCLA Hazardous Substance List, 40 CFR 302.4:

None listed.

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

None listed.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None listed.

SARA Title III

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed.

Section 311/312 (40 CFR 370):

Acute Health Hazard: No

Chronic Health Hazard: No

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

Section 313 Toxic Release Inventory (40 CFR 372):

This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA: None

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986): No components are listed on Prop 65 as a carcinogen.

Massachusetts Right to Know: No components are listed on the Massachusetts Right to Know List.

New Jersey Right to Know: No components are listed on the New Jersey Right to Know list.

Pennsylvania Right to Know: No components are listed on the Pennsylvania Right to Know List.

Canada WHMIS Hazard Class: Not applicable.

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

Revision Date: May 12, 2015

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.



GHS SAFETY DATA SHEET

Date Revised: **NOV 2018**
Supersedes: **AUG 2017**

WELD-ON® DUIT 413™ Low VOC Plastic Pipe Cement for Electrical Conduit

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: WELD-ON® DUIT 413™ Low VOC Plastic Pipe Cement for Electrical Conduit
PRODUCT USE: Low VOC Solvent Cement for PVC Plastic Electrical Conduit
SUPPLIER:

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

Medical: CHEMTEL Tel. 800.255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:



Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor H319: Causes serious eye irritation H332: Harmful if inhaled H335: May cause respiratory irritation H336: May cause drowsiness or dizziness H351: Suspected of causing cancer EUH019: May form explosive peroxides EUH066: Repeated exposure may cause skin dryness or cracking	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking P261: Avoid breathing dust/fume/gas/mist/vapors/spray P280: Wear protective gloves/protective clothing/eye protection/face protection P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing P403+P233: Store in a well ventilated place. Keep container tightly closed P337+P313: Get medical advice/attention P403+P233: Store in a well ventilated place. Keep container tightly closed P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS	EINECS	REACH Registration Number	CONCENTRATION % by Weight
Tetrahydrofuran (THF)	109-99-9	203-726-8	01-2119444314-46-0000	10 - 30
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	01-2119457290-43-0000	20 - 40
Cyclohexanone	108-94-1	203-631-1	01-2119453616-35-0000	20 - 30
Acetone	67-64-1	200-662-2	01-2119471330-49-0000	5 - 15

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media:	Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.	HMIS	NFPA	0-Minimal
Unsuitable Extinguishing Media:	Water spray or stream.	Health	2	2
Exposure Hazards:	Inhalation and dermal contact	Flammability	3	3
Combustion Products:	Oxides of carbon, hydrogen chloride and smoke	Reactivity	0	0
		PPE	B	4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.
Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:	Component	ACGIH 8-hr TLV	ACGIH 15-min STEL	OSHA 8-hr PEL	OSHA 15 min STEL	OSHA PEL-Ceiling	CAL/OSHA 8-hr PEL	CAL/OSHA Ceiling	CAL/OSHA 15-min STEL
	Tetrahydrofuran (THF)	50 ppm	100 ppm	200 ppm	N/E	N/E	200 ppm	N/E	250 ppm
	Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
	Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
	Acetone	250 ppm	500 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.

Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

Personal Protective Equipment (PPE):

Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.

Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear or gray, medium syrupy liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ketone	Boiling Range:	56°C (133°F) to 156°C (313°F)
pH:	Not Applicable	Evaporation Rate:	> 1.0 (BUAC = 1)
Melting/Freezing Point:	-108.5°C (-163.3°F) Based on first melting component: THF	Flammability:	Category 2
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1% based on Cyclohexanone
Flash Point:	-20°C (-4°F) TCC based on Acetone		UEL: 12.8% based on Acetone
Specific Gravity:	0.925 @23°C (73°F)	Vapor Pressure:	190 mm Hg @ 20°C (68°F) Acetone
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Vapor Density:	>2.0 (Air = 1)
Partition Coefficient n-octanol/water:	Not Available	Other Data: Viscosity:	Medium bodied
Auto-ignition Temperature:	321°C (610°F) based on THF		
Decomposition Temperature:	Not Applicable		
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 510 g/l. When applied as directed, per Santa Barbara County APCD Rule 353, Method 316A, VOC content is: ≤ 500 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD₅₀	LC₅₀	Target Organs
Tetrahydrofuran (THF)	Oral: 2842 mg/kg (rat)	Inhalation 3 hrs. 21,000 mg/m ³ (rat)	STOT SE3
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m ³ (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m ³ (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 510 g/l.
Degradability:	Not readily biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Adhesives
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1133
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping

DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D" .

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	ADHESIVES
UN NUMBER/PACKING GROUP:	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information:	Highly Flammable, Irritant, Carc. Cat. 2	Ingredient Listings:	USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)
Symbols:	F, Xi	R66:	Repeated exposure may cause skin dryness or cracking
Risk Phrases:	R11: Highly flammable. R20-Harmful by inhalation. R36/37: Irritating to eyes and respiratory system.	R67:	Vapors may cause drowsiness and dizziness
Safety Phrases:	S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking. S25: Avoid contact with eyes.	S26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
		S33:	Take precautionary measures against static discharges.
		S46:	If swallowed, seek medical advise immediately and show this container or label.

SECTION 16 - OTHER INFORMATION

Specification Information:		
Department issuing data sheet:	IPS, Safety Health & Environmental Affairs	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
E-mail address:	<EHSinfo@ipscorp.com>	
Training necessary:	Yes, training in practices and procedures contained in product literature.	
Reissue date / reason for reissue:	11/29/2018 / Updated GHS Standard Format	
Intended Use of Product:	Solvent Cement for PVC Plastic Pipe	

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.



GHS SAFETY DATA SHEET

WELD-ON® P-68 ECO™ Primer

Date Revised: JUN 2021
Supersedes:

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: WELD-ON® P-68 ECO™ Primer

PRODUCT USE: Ultra Low VOC Primer for PVC and CPVC Plastic Pipe

DISTRIBUTOR:

MANUFACTURER:

IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800-255-3924, +1 813-248-0585 (International)

Medical: CHEMTEL Tel. 800-255-3924, +1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2				

GHS LABEL:



Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2
CLASS D, DIVISION 2B

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor H319: Causes serious eye irritation H332: Harmful if inhaled H335: May cause respiratory irritation H336: May cause drowsiness or dizziness H351: Suspected of causing cancer EUH019: May form explosive peroxides	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking P261: Avoid breathing dust/fume/gas/mist/vapors/spray P280: Wear protective gloves/protective clothing/eye protection/face protection P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing P403+P233: Store in a well ventilated place. Keep container tightly closed P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS	EINECS	REACH	CONCENTRATION
			Registration Number	% by Weight
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	01-2119457290-43-0000	30 - 50
Cyclohexanone	108-94-1	203-631-1	01-2119453616-35-0000	20 - 40
Acetone	67-64-1	200-662-2	01-2119471330-49-0000	20 - 40

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.

* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).

indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.

Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.

Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.

Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:

Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.

Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.

Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.

Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Category 2 Carcinogen

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.

Unsuitable Extinguishing Media: Water spray or stream.

Exposure Hazards: Inhalation and dermal contact

Combustion Products: Oxides of carbon, hydrogen chloride and smoke

	HMIS	NFPA	0-Minimal
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).

Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.

Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.

Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.

Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:	Component	ACGIH	ACGIH	OSHA	OSHA	OSHA	CAL/OSHA	CAL/OSHA	CAL/OSHA
		8-hr TLV	15-min STEL	8-hr PEL	15 min STEL	PEL-Ceiling	8-hr PEL	Ceiling	15-min STEL
	Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
	Cyclohexanone	20 ppm	50 ppm	50 ppm	N/E	N/E	25 ppm	N/E	N/E
	Acetone	250 ppm	500 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.

Monitoring: Maintain breathing zone airborne concentrations below exposure limits.

Personal Protective Equipment (PPE):

Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.

Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.

Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above.
With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.



GHS SAFETY DATA SHEET

WELD-ON® P-68 ECO™ Primer

Date Revised: JUN 2021

Supersedes:

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear or purple, thin liquid	Odor Threshold:	0.88 ppm (Cyclohexanone)
Odor:	Ketone	Boiling Range:	56°C (133°F) to 156°C (313°F)
Ph:	Not Applicable	Evaporation Rate:	> 1.0 (BUAC = 1)
Melting/Freezing Point:	- 86°C (- 123°F) Based on MEK	Flammability:	Category 2
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	Flammability Limits:	LEL: 1.1% based on Cyclohexanone UEL: 12.8% based on Acetone
Flash Point:	-20°C (-4°F) TCC based on Acetone	Vapor Pressure:	190 mm Hg @ 20°C (68°F) Acetone
Specific Gravity:	0.857 @23°C (73°F)	Vapor Density:	>2.0 (Air = 1)
Solubility:	Solvent portion soluble in water. Resin portion separates out.	Other Data: Viscosity:	Water-thin
Partition Coefficient n-octanol/water:	Not Available		
Auto-ignition Temperature:	404°C (759°F): MEK		
Decomposition Temperature:	Not Applicable		
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A, VOC content is: ≤ 398 gl.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon, hydrogen chloride and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia.

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD ₅₀	LC ₅₀	Target Organs
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m ³ (rat)	STOT SE3
Cyclohexanone	Oral: 1535 mg/kg (rat), Dermal: 948 mg/kg (rabbit)	Inhalation 4 hrs. 8,000 PPM (rat)	Not Established
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m ³ (rat)	STOT SE3

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility in Soil:	If released into the environment, this product can move rapidly through the soil.
Degradability:	Not readily biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Flammable Liquid, n.o.s. (Acetone)	EXCEPTION for Ground Shipping
Hazard Class:	3	
Secondary Risk:	None	DOT Limited Quantity: Up to 5L per inner packaging, 30 kg gross weight per package.
Identification Number:	UN 1993	Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D".
Packing Group:	PG II	
Label Required:	Class 3 Flammable Liquid	
Marine Pollutant:	NO	

TDG INFORMATION	
TDG CLASS:	FLAMMABLE LIQUID 3
SHIPPING NAME:	Flammable Liquid, n.o.s. (Acetone)
UN NUMBER/PACKING GROUP:	UN 1993, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information:	Highly Flammable, Irritant, Carc. Cat. 2	Ingredient Listings:	USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)
Symbols:	F, Xi	R66:	Repeated exposure may cause skin dryness or cracking
Risk Phrases:	R11: Highly flammable. R20: Harmful by inhalation. R36/37: Irritating to eyes and respiratory system.	R67:	Vapors may cause drowsiness and dizziness
Safety Phrases:	S9: Keep container in a well-ventilated place. S16: Keep away from sources of ignition - No smoking. S25: Avoid contact with eyes.	S26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
		S33:	Take precautionary measures against static discharges.
		S46:	If swallowed, seek medical advice immediately and show this container or label.

SECTION 16 - OTHER INFORMATION

Specification Information:		
Department issuing data sheet:	IPS, Safety Health & Environmental Affairs	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
E-mail address:	<EHSinfo@ipscorp.com>	
Training necessary:	Yes, training in practices and procedures contained in product literature.	
Reissue date / reason for reissue:	1/7/2019 / Updated GHS Standard Format	
Intended Use of Product:	Primer for PVC and CPVC Plastic Pipe	

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

Safety Data Sheet



SECTION 1 CHEMICAL IDENTIFIER AND COMPANY IDENTIFICATION

Chevron and Texaco Unleaded Gasolines (All Grades)

Recommended Use of the Chemical and Restrictions on Use: Fuel

Synonyms: Automotive; Calco Mid-Grade Unleaded Gasoline; Calco Premium Gasoline; Calco Regular Unleaded Gasoline; CHEVRON and TEXACO MID-GRADE UNLEADED GASOLINES; CHEVRON and TEXACO PREMIUM UNLEADED GASOLINES; CHEVRON and TEXACO REGULAR UNLEADED GASOLINES; Chevron Mid-Grade Unleaded Gasoline; Chevron Plus Unleaded Gasoline; Chevron Premium Unleaded Gasoline; Chevron Regular Unleaded Gasoline; Chevron Supreme Plus Unleaded Gasoline; Chevron Supreme Unleaded Gasoline; Chevron UL/CQ Gasoline; GASOLINE (GENERIC); Gasolines; Texaco Power Plus Gasoline; Texaco Power Premium Unleaded Gasoline; Texaco Unleaded Gasoline; UNLEADED GASOLINE FOR EXPORT

Company Identification

Chevron Products Company
5001 Executive Parkway, Suite 200
San Ramon, CA 94583
United States of America

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency & Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

Product Information: (800) 582-3835
SDS Requests: lubemsds@chevron.com

SPECIAL NOTES: This SDS applies to: all motor gasoline.

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION:

- Flammable liquid: Category 1.
- Aspiration toxicant: Category 1.
- Carcinogen: Category 1B.
- Eye irritation: Category 2A.
- Germ Cell Mutagen: Category 1B.
- Reproductive toxicant (developmental): Category 2.
- Skin irritation: Category 2.
- Target organ toxicant (central nervous system): Category 3.
- Target organ toxicant (repeated exposure): Category 2.
- Acute aquatic toxicant: Category 2.
- Chronic aquatic toxicant: Category 2.



Signal Word: Danger

Physical Hazards:

- Extremely flammable liquid and vapour (H224).

Health Hazards:

- May be fatal if swallowed and enters airways (H304).
- Causes skin irritation (H315).
- Causes serious eye irritation (H319).
- May cause drowsiness or dizziness (H336).
- May cause genetic defects (H340).
- May cause cancer (H350).
- Suspected of damaging the unborn child (H361D).
- May cause damage to organs (Blood/Blood Forming Organs) through prolonged or repeated exposure (H373).

Environmental Hazards:

- Toxic to aquatic life with long lasting effects (H411).

PRECAUTIONARY STATEMENTS:

General:

- Keep out of reach of children (P102).
- Read label before use (P103).

Prevention:

- Obtain special instructions before use (P201).
- Do not handle until all safety precautions have been read and understood (P202).
- Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking (P210).
- Keep container tightly closed (P233).
- Keep cool (P235).
- Ground and bond container and receiving equipment (P240).
- Use explosion-proof electrical/ventilating/lighting/equipment (P241).
- Use non-sparking tools (P242).
- Take action to prevent static discharge (P243).
- Do not breathe dust/fume/gas/mist/vapours/spray (P260).
- Wash thoroughly after handling (P264).
- Use only outdoors or in a well-ventilated area (P271).
- Avoid release to the environment (P273).
- Wear protective gloves/protective clothing/eye protection/face protection (P280).

Response:

- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician (P301+P310).
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower (P303+P361+P353).
- IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340).
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing (P305+P351+P338).
- IF exposed or concerned: Get medical advice/attention (P308+P313).
- Specific treatment (see Notes to Physician on this label) (P321).
- Do NOT induce vomiting (P331).
- If skin irritation occurs: Get medical advice/attention (P332+P313).

- If eye irritation persists: Get medical advice/attention (P337+P313).
- Wash contaminated clothing before reuse (P363).
- In case of fire: Use media specified in the SDS to extinguish (P370+P378).
- Collect spillage (P391).

Storage:

- Store in a well-ventilated place. Keep container tightly closed (P403+P233).
- Store locked up (P405).

Disposal:

- Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

This material is a mixture.

COMPONENTS	CAS NUMBER	AMOUNT
Gasoline	86290-81-5	100 %volume
Toluene	108-88-3	1 - 35 %volume
Pentane, 2,2,4-trimethyl-	540-84-1	10 - 15 %volume
Xylene	1330-20-7	1 - 15 %volume
Trimethylbenzene (3 isomers: 1,2,3-; 1,2,4-; 1,3,5-isomer)	25551-13-7	5 - 10 %volume
Pentane isomers (pentanes)	Mixture	1 - 13 %volume
Butane	106-97-8	1 - 12 %volume
Ethanol	64-17-5	0 - 10 %volume
Hexane	110-54-3	1 - 5 %volume
Benzene	71-43-2	0.1 - 5 %volume
Heptane	142-82-5	1 - 4 %volume
Cyclohexane	110-82-7	1 - 3 %volume
Ethylbenzene	100-41-4	0.1 - 3 %volume
Methylcyclohexane	108-87-2	1 - 2 %volume
Naphthalene	91-20-3	0.1 - 2 %volume

Motor gasoline is considered a mixture by EPA under the Toxic Substances Control Act (TSCA). The refinery streams used to blend motor gasoline are all on the TSCA Chemical Substances Inventory. The appropriate CAS number for refinery blended motor gasoline is 86290-81-5. The product specifications of motor gasoline sold in your area will depend on applicable Federal and State regulations.

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get immediate medical attention.

Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.

Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry Chemical, CO₂, Aqueous Film Forming Foam (AFFF) or alcohol resistant foam.

Unusual Fire Hazards: See Section 7 for proper handling and storage.

UNSUITABLE EXTINGUISHING MEDIA: No data available

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:

Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.

Environmental Precautions:

Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater.

Methods and Material For Containment and Cleaning Up:

Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting:

Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE PRECAUTIONS

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Never siphon gasoline by mouth.

Do not store in open or unlabeled containers. READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. Use only as a motor fuel. Do not use for cleaning, pressure appliance fuel, or any other such use. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.

Static Hazard: Improper filling of portable gasoline containers creates danger of fire. Only dispense gasoline into approved and properly labeled gasoline containers. Always place portable containers on the ground. Be sure pump nozzle is in contact with the container while filling. Do not use a nozzle's lock-open device. Do not fill portable containers that are inside a vehicle or truck/trailer bed.

Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty

container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces . USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, refer to PPE information below.

Factors that affect PPE include, but are not limited to: properties of the chemical, other chemicals which may contact the same PPE, physical requirements (fit & sizing, cut/puncture protection, dexterity, thermal protection, etc.), and potential allergic reactions to the PPE material. It is the responsibility of the user to read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. Refer to appropriate CEN standards.

ENGINEERING CONTROLS:

Use general ventilation, local exhaust ventilation, or a combination of both.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.

Skin Protection: Wear chemical personal protective equipment (PPE) to prevent skin contact. Selection of chemical protective clothing should be performed by an Occupational Hygienist or Safety Professional and be based upon applicable standards (ASTM F739 or EN 374). Using chemical PPE depends upon operations conducted and may include chemical gloves, boots, chemical apron, chemical suit, and complete facial protection. Refer to PPE manufacturers to obtain breakthrough time information to determine how long PPE can be used before it needs to be replaced. Unless specific glove manufacturer data indicates otherwise, the below table is based upon available industry data to assist in the glove selection process and is intended to be used as reference only.

Chemical Glove Material	Thickness (mm)	Typical Breakthrough Time (minutes)
Butyl	0.7	7
Neoprene	0.61	7
Nitrile	0.8	60
Nitrile	0.23	2
Polyvinyl Chloride (PVC)	1.1	2
Viton Butyl	0.3	120

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors. When used as a fuel, this material can produce carbon monoxide in the exhaust. Determine if airborne concentrations are below the occupational exposure limit for carbon

monoxide. If not, wear an approved positive-pressure air-supplying respirator.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	Form	TWA	STEL	Ceiling	Notation
Gasoline	ACGIH	Vapor	300 ppm	500 ppm	--	A3
Gasoline	ACGIH	--	300 ppm	500 ppm	--	--
Toluene	ACGIH	--	20 ppm	--	--	--
Toluene	JSOH	--	188 mg/m3	--	--	Skin
Pentane, 2,2,4-trimethyl-	ACGIH	--	300 ppm	--	--	--
Pentane, 2,2,4-trimethyl-	JSOH	--	1400 mg/m3	--	--	--
Xylene	ACGIH	--	20 ppm	--	--	--
Xylene	JSOH	--	217 mg/m3	--	--	--
Trimethylbenzene (3 isomers: 1,2,3-; 1,2,4-; 1,3,5- isomer)	ACGIH	--	10 ppm	--	--	--
Butane	ACGIH	--	--	1000 ppm	--	--
Butane	JSOH	--	1200 mg/m3	--	--	--
Ethanol	ACGIH	--	1000 ppm	1000 ppm	--	A4
Hexane	ACGIH	--	50 ppm	--	--	Skin
Hexane	JSOH	--	140 mg/m3	--	--	Skin
Benzene	ACGIH	Vapor	0.50 ppm	2.50 ppm	--	--
Benzene	ACGIH	--	0.05 ppm	2.50 ppm	--	Skin
Benzene	CVX	Vapor	0.50 ppm	2.50 ppm	--	--
Heptane	ACGIH	--	400 ppm	500 ppm	--	--
Heptane	JSOH	--	820 mg/m3	--	--	--
Cyclohexane	ACGIH	--	100 ppm	--	--	--
Cyclohexane	JSOH	--	520 mg/m3	--	--	--
Ethylbenzene	ACGIH	Vapor	100 ppm	--	--	--
Ethylbenzene	ACGIH	--	20 ppm	--	--	--
Ethylbenzene	JSOH	--	87 mg/m3	--	--	Skin
Methylcyclohexane	ACGIH	--	400 ppm	--	--	--
Methylcyclohexane	JSOH	--	1600 mg/m3	--	--	--
Naphthalene	ACGIH	Vapor	10 ppm	15 ppm	--	A4 Skin
Naphthalene	ACGIH	--	10 ppm	--	--	Skin

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow

Physical State: Liquid

Odor: Petroleum odor

Odor Threshold: No data available

pH: Not Applicable

Vapor Pressure: 5 psi - 15.50 psi (Typical) @ 37.8 °C (100 °F)

Relative Vapor Density: 3 - 4 (Typical)

Particle Characteristics: No data available

Boiling Point: 27.2°C (81°F) - 52.8°C (127°F) (Typical)

Solubility: Negligible
Freezing Point: Not Applicable
Melting Point: Not Applicable
Specific Gravity: 0.70 g/ml - 0.80 g/ml @ 15.6°C (60.1°F) (Typical)
Density: No data available
Viscosity: <1 SUS @ 37.8°C (100°F)
Evaporation Rate: No data available
n-Octanol/Water Partition Coefficient: 2 - 7
Combustion Characteristics (Solids/Gases): No data available
Decomposition Temperature: No data available
Boiling Range: No data available

FLAMMABLE PROPERTIES:

Flashpoint: (Tagliabue Closed Cup ASTM D56) < -45 °C (< -49 °F)

Autoignition: > 280 °C (> 536 °F)

Flammability (solid, gas): Not Applicable

Flammability (Explosive) Limits (% by volume in air): Lower: 1.4 Upper: 7.6

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 HAZARD INFORMATION

IMMEDIATE HEALTH EFFECTS

Eye: Contact with the eyes causes severe irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision.

Eye Irritation: This material causes serious eye irritation. The product has not been tested. The statement is based on evaluation of data for product components.

Skin: Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin. Symptoms may include pain, itching, discoloration, swelling, and blistering. Contact with the skin is not expected to cause an allergic skin response.

Acute Dermal Toxicity: LD50: >3.75 g/kg (rabbit).

Skin Irritation: For a 4-hour exposure, the Primary Irritation Index (PII) in rabbits is: 4.8/8.0.

Skin Sensitization: This material did not cause skin sensitization reactions in a Buehler guinea pig test.

Ingestion: Highly toxic; may be fatal if swallowed. Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.

Acute Oral Toxicity: LD50: >5 ml/kg (rat).

Inhalation: Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of

consciousness, coma or death.

Acute Inhalation Toxicity: 4 hour(s) LD50: >20000 mg/m³ (rat).

Acute Toxicity Estimate: Not Determined

DELAYED OR OTHER HEALTH EFFECTS:

Reproductive Toxicity: Contains material that may cause harm to the unborn child if inhaled above the recommended exposure limit. This material is suspected of damaging the unborn child. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Carcinogenicity: Prolonged or repeated exposure to this material may cause cancer. Gasoline has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Whole gasoline exhaust has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Contains benzene, which has been classified as a carcinogen by the National Toxicology Program (NTP) and a Group 1 carcinogen (carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Contains ethylbenzene which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

This material may cause cancer. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Germ Cell Mutagenicity: This material may cause genetic defects. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: Blood/Blood Forming Organs

Specific Target Organ Toxicity - Single Exposure: This material may cause drowsiness or dizziness. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Specific Target Organ Toxicity - Repeated Exposure: This material may cause damage to organs through prolonged or repeated exposure. The product has not been tested. The statement is based on evaluation of data for similar materials or product components.

Aspiration Hazard: This material is considered an aspiration hazard based on the kinematic viscosity of the material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains naphthalene.

GENERAL TOXICITY: Exposure to naphthalene has been reported to cause methemoglobinemia and/or hemolytic anemia, especially in humans deficient in the enzyme glucose-6-phosphate dehydrogenase.

Laboratory animals given repeated oral doses of naphthalene have developed cataracts.

REPRODUCTIVE TOXICITY AND BIRTH DEFECTS: Naphthalene did not cause birth defects when administered orally to rabbits, rats, and mice during pregnancy, but slightly reduced litter size in mice at dose levels that were lethal to the pregnant females. Naphthalene has been reported to cross the human placenta.

GENETIC TOXICITY: Naphthalene caused chromosome aberrations and sister chromatid exchanges in Chinese hamster ovary cells, but was not a mutagen in several other in-vitro tests.

CARCINOGENICITY: In a study conducted by the National Toxicology Program (NTP), mice exposed to 10 or 30 ppm of naphthalene by inhalation daily for two years had chronic inflammation of the nose and lungs and increased incidences of metaplasia in those tissues. The incidence of benign lung tumors (alveolar/bronchiolar adenomas) was significantly increased in the high-dose female group but not in the male groups. In another two-year inhalation study conducted by NTP, exposure of rats to 10, 30,

and 60 ppm naphthalene caused increases in the incidences of a variety of nonneoplastic lesions in the nose. Increases in nasal tumors were seen in both sexes, including olfactory neuroblastomas in females at 60 ppm and adenomas of the respiratory epithelium in males at all exposure levels. The relevance of these effects to humans has not been established. No carcinogenic effect was reported in a 2-year feeding study in rats receiving naphthalene at 41 mg/kg/day.

This product contains cyclohexane.

Cyclohexane primarily affects the central nervous systems of laboratory animals and humans. Acute or prolonged inhalation of cyclohexane at levels below the recommended exposure limits does not result in toxic effects while acute exposures to levels above these recommended limits can cause reversible central nervous system depression. Prolonged exposures of laboratory animals to high levels (up to low thousands of parts per million) have also caused reversible effects which included hyperactivity, diminished response to stimuli, and adaptive liver changes while very high levels (high thousands of parts per million) were fatal. No developmental effects were seen in rats or rabbits following exposures of up to 7000 ppm cyclohexane. No reproductive effects occurred in rats, although postnatal pup growth was reduced at 7000 ppm in a similar manner as observed in the parental animals. Cyclohexane has not been shown to be mutagenic in several in vitro and in vivo assays and has not produced tumors in several dermal application long-term bioassays. Based on these results and the lack of any mutagenic or genotoxic metabolites, cyclohexane is not expected to be mutagenic or genotoxic. Following dermal exposure, cyclohexane is rapidly absorbed, metabolized, and excreted.

This product contains butane.

An atmospheric concentration of 100,000 ppm (10%) butane is not noticeably irritating to the eyes, nose or respiratory tract, but will produce slight dizziness in a few minutes of exposure. No chronic systemic effect has been reported from occupational exposure.

This product contains benzene.

GENETIC TOXICITY/CANCER: Repeated or prolonged breathing of benzene vapor has been associated with the development of chromosomal damage in experimental animals and various blood diseases in humans ranging from aplastic anemia to leukemia (a form of cancer). All of these diseases can be fatal. In some individuals, benzene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation.

REPRODUCTIVE/DEVELOPMENTAL TOXICITY: No birth defects have been shown to occur in pregnant laboratory animals exposed to doses not toxic to the mother. However, some evidence of fetal toxicity such as delayed physical development has been seen at such levels. The available information on the effects of benzene on human pregnancies is inadequate but it has been established that benzene can cross the human placenta.

OCCUPATIONAL: The OSHA Benzene Standard (29 CFR 1910.1028) contains detailed requirements for training, exposure monitoring, respiratory protection and medical surveillance triggered by the exposure level. Refer to the OSHA Standard before using this product.

This product contains n-hexane.

TARGET ORGAN TOXICITY: Prolonged or repeated ingestion, skin contact or breathing of vapors of n-hexane has been shown to cause peripheral neuropathy. Recovery ranges from no recovery to complete recovery depending upon the severity of the nerve damage. Exposure to 1000 ppm n-hexane for 18 hr/day for 61 days has been shown to cause testicular damage in rats. However, when rats were exposed to higher concentrations for shorter daily periods (10,000 ppm for 6 h/day, 5 days/wk for 13 weeks), no testicular lesions were seen.

CARCINOGENICITY: Chronic exposure to commercial hexane (52% n-hexane) at a concentration of 9000ppm was not carcinogenic to rats or to male mice, but did result in an increased incidence of liver tumors in female mice. No carcinogenic effects were observed in female mice exposed to 900 or 3000 ppm hexane or in male mice. The relevance for humans of these hexane-induced mouse liver tumors is questionable.

GENETIC TOXICITY: n-Hexane caused chromosome aberrations in bone marrow of rats, but was

negative in the AMES and mouse lymphoma tests.

This product contains ethanol (ethyl alcohol).

Chronic ingestion of ethanol can damage the liver, nervous system and heart. Chronic heavy consumption of alcoholic beverages has been associated with an increased risk of cancer. Ingestion of ethanol during pregnancy can cause human birth defects such as fetal alcohol syndrome.

Gasolines are highly volatile and can produce significant concentrations of vapor at ambient temperatures. Gasoline vapor is heavier than air and at high concentrations may accumulate in confined spaces to present both safety and health hazards. When vapor exposures are low, or short duration and infrequent, such as during refueling and tanker loading/unloading, neither total hydrocarbon nor components such as benzene are likely to result in any adverse health effects. In situations such as accidents or spills where exposure to gasoline vapor is potentially high, attention should be paid to potential toxic effects of specific components. Information about specific components in gasoline can be found in Sections 2/3, 8 and 15 of this SDS. More detailed information on the health hazards of specific gasoline components can be obtained calling the Chevron Emergency Information Center (see Section 1 for phone numbers).

Pathological misuse of solvents and gasoline, involving repeated and prolonged exposure to high concentrations of vapor is a significant exposure on which there are many reports in the medical literature. As with other solvents, persistent abuse involving repeated and prolonged exposures to high concentrations of vapor has been reported to result in central nervous system damage and eventually, death. In a study in which ten human volunteers were exposed for 30 minutes to approximately 200, 500 or 1000 ppm concentrations of gasoline vapor, irritation of the eyes was the only significant effect observed, based on both subjective and objective assessments.

Lifetime inhalation of wholly vaporized unleaded gasoline at 2056 ppm has caused increased liver tumors in female mice and kidney cancer in male rats. In their 1988 review of carcinogenic risk from gasoline, The International Agency for Research on Cancer (IARC) noted that, because published epidemiology studies did not include any exposure data, only occupations where gasoline exposure may have occurred were reviewed. These included gasoline service station attendants and automobile mechanics. IARC also noted that there was no opportunity to separate effects of combustion products from those of gasoline itself. Although IARC allocated gasoline a final overall classification of Group 2B, i.e. possibly carcinogenic to humans, this was based on limited evidence in experimental animals plus supporting evidence including the presence in gasoline of benzene. The actual evidence for carcinogenicity in humans was considered inadequate.

MUTAGENICITY: Gasoline was not mutagenic, with or without activation, in the Ames assay (*Salmonella typhimurium*), *Saccharomyces cerevisiae*, or mouse lymphoma assays. In addition, point mutations were not induced in human lymphocytes. Gasoline was not mutagenic when tested in the mouse dominant lethal assay. Administration of gasoline to rats did not cause chromosomal aberrations in their bone marrow cells. **EPIDEMIOLOGY:** To explore the health effects of workers potentially exposed to gasoline vapors in the marketing and distribution sectors of the petroleum industry, the American Petroleum Institute sponsored a cohort mortality study (Publication 4555), a nested case-control study (Publication 4551), and an exposure assessment study (Publication 4552). Histories of exposure to gasoline were reconstructed for cohort of more than 18,000 employees from four companies for the time period between 1946 and 1985. The results of the cohort mortality study indicated that there was no increased mortality from either kidney cancer or leukemia among marketing and marine distribution employees who were exposed to gasoline in the petroleum industry, when compared to the general population. More importantly, based on internal comparisons, there was no association between mortality from kidney cancer or leukemia and various indices of gasoline exposure. In particular, neither duration of employment, duration of exposure, age at first exposure, year of first exposure, job category, cumulative exposure, frequency of peak exposure, nor average intensity of exposure had any effect on kidney cancer or leukemia mortality. The results of the nested case-control study confirmed the findings of the original cohort study. That is, exposure to gasoline at the levels experienced by this cohort of distribution workers is not a significant risk factor for leukemia (all cell types), acute myeloid leukemia, kidney cancer or multiple myeloma.

This product contains ethylbenzene.

BIRTH DEFECTS AND REPRODUCTION: Ethylbenzene is not expected to cause birth defects or other developmental effects based on well-conducted studies in rabbits and rats sponsored by NIOSH. Other studies in rats and mice which reported urinary tract malformations have many deficiencies and have limited usefulness in evaluating human risk. Reproductive effects are not expected based on a NIOSH study of fertility, and lack of effects observed for sperm counts and motility, estrous cycle and pathology of reproductive organs following repeated exposures. **HEARING:** Statistically significant losses in outer hair cells (OHCs) were observed in rats exposed to ≥ 200 ppm ethylbenzene, 6 hours/day, 6 days/week for 13 weeks, after an 8-week recovery period. Following longer exposure, inner hair cells losses were also observed in rats exposed to ≥ 600 ppm ethylbenzene, but only occasionally in rats exposed to 400 ppm. The Lowest Observed Adverse Effect Level in rats (LOAEL) was 200 ppm for losses of OHCs. Guinea pigs exposed to ethylbenzene at 2,500 ppm, 6 hours/day for 5 days did not show auditory deficits or losses in OHCs. The concentration of ethylbenzene used in the JP-8 study was approximately 10 ppm. **GENETIC TOXICITY:** Ethylbenzene tested negative in the bacterial mutation test, Chinese Hamster Ovary (CHO) cell in vitro assay, sister chromatid exchange assay and an unscheduled DNA synthesis assay. Conflicting results have been reported for the mouse lymphoma cell assay. Increased micronuclei were reported in an in vitro Syrian hamster embryo cell assay; however, two in vivo micronuclei studies in mice were negative. In Syrian hamster embryo cells in vitro, cell transformation was observed at 7 days of incubation but not at 24 hours. Based on these results, ethylbenzene is not expected to be mutagenic or clastogenic. **CARCINOGENICITY:** In studies conducted by the National Toxicology Program, rats and mice were exposed to ethylbenzene at 25, 250 and 750 ppm for six hours per day, five days per week for 103 weeks. In rats exposed to 750 ppm, the incidence of kidney tubule hyperplasia and tumors was increased. Testicular tumors develop spontaneously in nearly all rats if allowed to complete their natural life span; in this study, the development of these tumors appeared to be enhanced in male rats exposed to 750 ppm. In mice, the incidences of lung tumors in males and liver tumors in females exposed to 750 ppm were increased as compared to control mice but were within the range of incidences observed historically in control mice. Other liver effects were observed in male mice exposed to 250 and 750 ppm. The incidences of hyperplasia were increased in the pituitary gland in female mice at 250 and 750 ppm and in the thyroid in male and female mice at 750 ppm.

This product contains toluene.

GENERAL TOXICITY: The primary effects of exposure to toluene in animals and humans are on the central nervous system. Solvent abusers, who typically inhale high concentrations (thousands of ppm) for brief periods of time, in addition to experiencing respiratory tract irritation, often suffer permanent central nervous system effects that include tremors, staggered gait, impaired speech, hearing and vision loss, and changes in brain tissue. Death in some solvent abusers has been attributed to cardiac arrhythmias, which appear to be have been triggered by epinephrine acting on solvent sensitized cardiac tissue. Although liver and kidney effects have been seen in some solvent abusers, results of animal testing with toluene do not support these as primary target organs.

HEARING: Humans who were occupationally exposed to concentrations of toluene as low as 100 ppm for long periods of time have experienced hearing deficits. Hearing loss, as demonstrated using behavioral and electrophysiological testing as well as by observation of structural damage to cochlear hair cells, occurred in experimental animals exposed to toluene. It also appears that toluene exposure and noise may interact to produce hearing deficits.

COLOR VISION: In a single study of workers exposed to toluene at levels under 50 ppm, small decreases in the ability to discriminate colors in the blue-yellow range have been reported for female workers. This effect, which should be investigated further, is very subtle and would not likely have been noticed by the people tested.

REPRODUCTIVE/DEVELOPMENTAL TOXICITY: Toluene may also cause mental and/or growth retardation in the children of female solvent abusers who directly inhale toluene (usually at thousands of ppm) when they are pregnant. Toluene caused growth retardation in rats and rabbits when administered at doses that were toxic to the mothers. In rats, concentrations of up to 5000 ppm did not cause birth defects. No effects were observed in the offspring at doses that did not intoxicate the pregnant animals. The exposure level at which no effects were seen (No Observed Effect Level, NOEL) is 750 ppm in the

rat and 500 ppm in the rabbit.

This product contains xylene.

ACUTE TOXICITY: The primary effects of exposure to xylene in animals and humans are on the central nervous system. In addition, in some individuals, xylene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation. **DEVELOPMENTAL TOXICITY:** Xylene has been reported to cause developmental toxicity in rats and mice exposed by inhalation during pregnancy. The effects noted consisted of delayed development and minor skeletal variations. In addition, when pregnant mice were exposed by ingestion to a level that killed nearly one-third of the test group, lethality (resorptions) and malformations (primarily cleft palate) occurred. Since xylene can cross the placenta, it may be appropriate to prevent exposure during pregnancy. **GENETIC TOXICITY/CARCINOGENICITY:** Xylene was not genotoxic in several mutagenicity testing assays including the Ames test. In a cancer study sponsored by the National Toxicology Program (NTP), technical grade xylene gave no evidence of carcinogenicity in rats or mice dosed daily for two years. **HEARING:** Mixed xylenes have been shown to cause measurable hearing loss in rats exposed to 800 ppm in the air for 14 hours per day for six weeks. Exposure to 1450 ppm xylene for 8 hours caused hearing loss while exposure to 1700 ppm for 4 hours did not. Although no information is available for lower concentrations, other chemicals that cause hearing loss in rats at relatively high concentrations do not cause hearing loss in rats at low concentrations. Worker exposure to xylenes at the permissible exposure limit (100 ppm, time-weighted average) is not expected to cause hearing loss.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

Gasoline studies have been conducted in the laboratory under a variety of test conditions with a range of fish and invertebrate species. An even more extensive database is available on the aquatic toxicity of individual aromatic constituents. The majority of published studies do not identify the type of gasoline evaluated, or even provide distinguishing characteristics such as aromatic content or presence of lead alkyls. As a result, comparison of results among studies using open and closed vessels, different ages and species of test animals and different gasoline types, is difficult.

The bulk of the available literature on gasoline relates to the environmental impact of monoaromatic (BTEX) and diaromatic (naphthalene, methylnaphthalenes) constituents. In general, non-oxygenated gasoline exhibits some short-term toxicity to freshwater and marine organisms, especially under closed vessel or flow-through exposure conditions in the laboratory. The components which are the most prominent in the water soluble fraction and cause aquatic toxicity, are also highly volatile and can be readily biodegraded by microorganisms.

This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

48 hour(s) LC50: 3.0 mg/l (Daphnia magna)
96 hour(s) LC50: 1.8 mg/l (Mysidopsis bahia)
96 hour(s) LC50: 8.3 mg/l (Cyprinodon variegatus)
96 hour(s) LC50: 2.7 mg/l (Oncorhynchus mykiss)

MOBILITY IN SOIL

No data available.

PERSISTENCE AND DEGRADABILITY

This material is expected to be readily biodegradable. Following spillage, the more volatile components of gasoline will be rapidly lost, with concurrent dissolution of these and other constituents into the water. Factors such as local environmental conditions (temperature, wind, mixing or wave action, soil type, etc), photo-oxidation, biodegradation and adsorption onto suspended sediments, can contribute to the

weathering of spilled gasoline.

The aqueous solubility of non-oxygenated unleaded gasoline, based on analysis of benzene, toluene, ethylbenzene+xylenes and naphthalene, is reported to be 112 mg/l. Solubility data on individual gasoline constituents also available.

The product has not been tested. The statement has been derived from the properties of the individual components.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: 2 - 7

ADVERSE EFFECTS FOR OZONE LAYER:

No data available.

SECTION 13 NOTES ON DISPOSAL

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

UN Shipping Description: UN1203, GASOLINE, 3, II

IMO/IMDG Shipping Description: UN1203, GASOLINE, 3, II, FLASH POINT SEE SECTION 9, MARINE POLLUTANT (GASOLINE)

ICAO/IATA Shipping Description: UN1203, GASOLINE, 3, II

Domestic Regulatory Information

Land Regulatory Information: subject to the provisions of the Fire Service Act

Maritime Regulatory Information: subject to the provisions of the Ship Safety Act

Aviation Regulatory Information: subject to the provisions of the Civil Aeronautics Act

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1 =IARC Group 1

01-2 A=IARC Group 2A

01-2B=IARC Group 2B

02-1 =PRTR (Pollutant Release and Transfer Register) Class 1

02-2=PRTR (Pollutant Release and Transfer Register) Class 2

03-1 =Industrial Safety and Health Law (Harmful Substances, etc., Prohibited for Manufacture)

03-2 =Industrial Safety and Health Law (Harmful Substances Subject to Obtaining Permission for Manufacturing)

03-3=Industrial Safety and Health Law (Harmful Substances Whose Names, etc., are to Be Indicated)

03-4=Industrial Safety and Health Law (Notifiable Substances)

04-1=Poisonous and Deleterious Substances Control Law (Poisonous substance)

04-2=Poisonous and Deleterious Substances Control Law (Deleterious substance)

The following components of this material are found on the regulatory lists indicated.

Gasoline	01-2B
Toluene	02-1, 03-3, 03-4, 04-2
Pentane, 2,2,4-trimethyl-	02-2, 03-3
Xylene	02-1, 03-3, 03-4, 04-2
Trimethylbenzene (3 isomers: 1,2,3-; 1,2,4-; 1,3,5-isomer)	02-1, 03-3, 03-4
Butane	03-3, 03-4
Ethanol	01-1, 03-3, 03-4
Hexane	02-1, 03-3, 03-4
Benzene	01-1, 02-1, 03-1, 03-3, 03-4
Heptane	02-1, 03-3, 03-4
Cyclohexane	02-1, 03-3, 03-4
Ethylbenzene	01-2B, 02-1, 03-3, 03-4
Methylcyclohexane	03-3, 03-4
Naphthalene	01-1, 01-2B, 02-1, 03-3, 03-4

JAPANESE FIRE LAW: Group 4, Class 1 Petroleum

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AIC (Australia), DSL (Canada), EINECS (European Union), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT: SECTION 08 - Engineering Control Measures information was modified.
SECTION 08 - General Considerations information was modified.
SECTION 08 - Occupational Exposure Limit Table information was modified.
SECTION 08 - Personal Protective Equipment List information was deleted.
SECTION 08 - Personal Protective Equipment information was added.
SECTION 08 - Skin Protection information was modified.
SECTION 15 - Regulatory Information information was modified.

Revision Date: 2023/03/01

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	

Prepared according to JIS Z 7253:2019 / JIS Z 7252:2019 by Chevron Technical Center, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is

furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.



Date of issue: 5-24-21

Revision
date: 5-24-21

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Trade name:	Clear Glide™ Wire Pulling Lubricant
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SECTION 1: Identification

Product identifier: Clear Glide™ Wire Pulling Lubricant.
Synonyms: None available.
Product Code Number: 31-388(-6), 31-381, 31-385(G), 31-2143.
SDS number: ID006
Recommended use: Wire Pulling Lubricant.
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Name: Darryl Docter.
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Physical hazards

Not classified as a physical hazard under GHS criteria

Health hazards

Not classified as a health hazard under GHS criteria.

Environmental hazards

Not classified as an environmental hazard under GHS criteria.

GHS Signal word: Not applicable.

GHS Hazard statement(s): Not applicable.

GHS Hazard symbol(s): Not applicable.

GHS Precautionary statement(s):

Prevention: No prevention precautionary phrases.

Response: No response precautionary phrases.

Storage: No storage precautionary phrases.

Disposal: No disposal precautionary phrases.

Hazard(s) not otherwise

Classified (HNOC): None known.

Percentage of ingredient(s) of unknown acute toxicity:

Not applicable.

SECTION 3: Composition/information on ingredients

Mixture:

Chemical name	Concentration (weight %)	CAS#
Not applicable		

There are no ingredients present at above the cut off concentrations for GHS classification and therefore the product is not classified as hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

SECTION 4: First-aid Measures

Description of necessary measures:

Inhalation: If inhaled, move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms persist.

Skin contact: In case of contact, Wash skin with soap and for at least 15 minutes. Remove contaminated clothing and thoroughly clean before reuse. Get medical attention if symptoms persist.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.

Ingestion: Administer water or milk. Do NOT induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Consult physician or local poison control center.

Most important symptoms/effects, acute and delayed: None expected.

Indication of immediate medical attention and special treatment needed: If any symptoms are observed, contact a physician and give them this SDS sheet. If exposed or concerned: Get medical advice/attention.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: Not flammable. Use extinguishing media suitable for surrounding materials.

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: None expected.
Combustion products - Oxides of carbon, nitrogen and silicone.

Special protective equipment and precautions for fire-fighters: For fire involving this material, do not enter any enclosed or confined fire space without proper protective equipment. Use self-contained breathing apparatus with full face shield to protect against the hazardous effects of combustion products and oxygen deficiencies.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Stay upwind and away from spill/release. For large spillages, notify persons downwind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Methods and material for containment and cleaning up:

Stop spill at source. Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required.

SECTION 7: Handling and Storage

Precautions for safe handling: Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Conditions for safe storage, including any incompatibles: Store at temperatures between 40 - 180 F. Avoid freezing. Keep away from children, infants and pets. Keep in dry location. Keep container(s) tightly closed and properly labeled. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Avoid prolonged storage at temperatures exceeding 190 F.

"Empty" containers retain residue and may be dangerous. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 8: Exposure controls/personal protection

Control Parameters:

Occupational exposure limits:

US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200): Permissible Exposure Limits		
Substance	PEL-TWA (8 hour)	PEL-STEL (15 min)
2-Amino-2-methyl-1-propanol	None established	None established

US ACGIH Threshold Limit Values		
Substance	TLV-TWA (8 hour)	TLV-STEL (15 min)
2-Amino-2-methyl-1-propanol	None established	None established

NIOSH Exposure Limits		
Substance	TWA	STEL
2-Amino-2-methyl-1-propanol	None established	None established

Appropriate engineering controls: General (mechanical) room ventilation is expected to be adequate. Additional means of room ventilation may be required in closed areas.

Individual protection measures, such as personal protective equipment:

Eye/face protection: The use of OSHA compliant Safety glasses or splash goggles are recommended.

Skin and Hand protection: None normally required.

Respiratory protection: None normally required. Where protection from nuisance levels of dusts are desired, use type N95 (US) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH/OSHA.

Other: None required.

Thermal hazards: No data available.

SECTION 9: Physical and chemical properties

Appearance

Physical state:	Gel
Form:	Clear, colorless gel.
Color:	Colorless.
Odor:	Slight odor.
Odor threshold:	No data available
pH:	7.0 - 8.0
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	212°F (100°C)
Flash point:	None
Evaporation rate:	No data available
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit – lower (%):	Not applicable
Flammability limit – upper (%):	Not applicable
Explosive limit – lower (%):	Not applicable
Explosive limit – upper (%):	Not applicable
Vapor pressure:	No data available
Vapor density:	No data available
Relative Density:	1.09
Solubility(ies):	Infinite in water.
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	25300-40300 cps
Other information:	
% Volatile by volume:	< 98%
Volatile Organic Compounds (VOC) (as packaged, minus water)	17.4 gms/ltr
Percent solids by weight:	~ 5%

SECTION 10: Stability and Reactivity

Reactivity: Not chemically reactive.

Chemical stability: Stable under normal ambient and anticipated conditions of use.
Possibility of hazardous reactions: Hazardous reactions not anticipated.
Conditions to avoid: Avoid prolonged storage at temperatures exceeding 190 F.
Incompatible materials: Avoid strong oxidizers and nitrites.
Hazardous decomposition Products: Oxides of carbon, nitrogen and silicone.

SECTION 11: Toxicological information

Information on likely routes of exposure:

Inhalation: Not an expected route of entry.
Ingestion: Not an expected route of entry.
Skin: Expected to be a primary route of entry.
Eyes: Not an expected route of entry.

Symptoms related to the physical, chemical, and toxicological characteristics:

None normally expected.

Delayed and immediate effects and chronic effects from short or long-term exposure:

Upon prolonged contact, may cause temporary eye discomfort.

Numerical measures of toxicity:

Ingredient Information:

Substance	Test Type (species)	Value
2-Amino-2-methyl-1-propanol	LD ₅₀ Oral (Rat)	2900 mg/kg
	LD ₅₀ Dermal (Rabbit)	> 2000 mg/kg
	LC ₅₀ Inhalation (Rat)	No data available

Product Acute Toxicity Estimates:

Acute Oral Toxicity – no data available
Acute Dermal Toxicity - no data available
Acute Inhalation Toxicity - no data available

Skin corrosion/irritation: No information available on the mixture, however none of the components have been classified to cause skin corrosion/irritation (or are below the concentration threshold for classification).

Serious eye damage/eye irritation: No information available on the mixture, however none of the components have been classified to cause eye damage/irritation (or are below the concentration threshold for classification).

Respiratory sensitization:	No information available on the mixture, however none of the components have been classified as a respiratory sensitizer (or are below the concentration threshold for classification).
Skin sensitization:	No information available on the mixture, however none of the components have been classified as a skin sensitizer (or are below the concentration threshold for classification).
Germ cell mutagenicity:	No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).
Carcinogenicity:	No information available on the mixture, however none of the components have been classified for carcinogenicity (or are below the concentration threshold for classification).
Reproductive toxicity:	No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).
Specific target organ toxicity- Single exposure:	No information available on the mixture, however none of the components have been classified for STOT SE (or are below the concentration threshold for classification).
Specific target organ toxicity- Repeat exposure:	No information available on the mixture, however none of the components have been classified for STOT RE (or are below the concentration threshold for classification).
Aspiration hazard:	No information available on the mixture, however none of the components have been classified for aspiration hazard (or are below the concentration threshold for classification).
Further information:	No data available.

SECTION 12: Ecological information

Ecotoxicity:

Product data: No data available

Ingredient Information:

Substance	Test Type	Species	Value
2-Amino-2-methyl-1-propanol	LC ₅₀	Lepomis macrochirus (Bluegill sunfish)	190 mg/l (96h)
	LC ₅₀	Aquatic invertebrate – Daphnia magna (water flea)	193 mg/l (48h)
	EyC ₅₀	Algae - Scenedesmus sp	565.5 mg/l (72h)

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal instructions:

Contact a licensed professional waste disposal service to dispose of this material. The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the SDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

SECTION 14: Transport Information

DOT: This material is not classified as dangerous under DOT regulations.

IATA: This material is not classified as dangerous under IATA regulations.

IMDG: This material is not classified as dangerous under IMDG regulations.

SECTION 15: Regulatory Information

Safety, health and environmental regulations specific for the product.

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311,312 and 313:

Section 302 – No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

CERCLA Hazardous Substance List, 40 CFR 302.4:

None listed.

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

None listed.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None listed.

SARA Title III

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed.

Section 311/312 (40 CFR 370):

Acute Health Hazard: No

Chronic Health Hazard: No

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

Section 313 Toxic Release Inventory (40 CFR 372):

This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA: None

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986): None of the components are listed on Prop 65 as a carcinogen.

Massachusetts Right to Know: None of the components are listed on the Massachusetts Right to Know List.

Minnesota Hazardous Substance List: None of the components are listed on the Minnesota Hazardous Substance List.

New Jersey Right to Know: None of the components are listed on the New Jersey Right to Know list.

Pennsylvania Right to Know: None of the components are listed on the Pennsylvania Right to Know List.

Canada WHMIS Hazard Class: Not hazardous under WHMIS

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

Revision Date: May 24, 21

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

DIESEL FUEL No. 2

Product Use: Fuel Oil

Product Number(s): 180004, 180005, 180006, 180007, 180008, 180009, 180010, 180011, 180012, 180013, 180014, 180015, 180016, 180017, 180020, 180178, 180179, 180181, 180182, 180184, 180185, 180191, 180205, 180206

Company Identification

Chevron Canada Ltd.
1200-1050 West Pender Street
Vancouver, BC V6E 3T4
Canada

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency & Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

Technical Information: (510) 242-5357

SPECIAL NOTES: This SDS covers all Chevron, Texaco and Calco CARB & non-CARB Diesel No. 2 Fuels. The sulfur content is less than 0.5% (mass). Red dye is added to non-taxable fuel. (SDS 6894)

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Flammable liquid: Category 3. Aspiration toxicant: Category 1. Carcinogen: Category 1B. Skin irritation: Category 2. Target organ toxicant (repeated exposure): Category 2. Target organ toxicant (central nervous system): Category 3. Acute inhalation toxicant: Category 4. Acute aquatic toxicant: Category 2. Chronic aquatic toxicant: Category 2.



Signal Word: Danger

Physical Hazards: Flammable liquid and vapour (H226).

Health Hazards: May be fatal if swallowed and enters airways (H304). May cause cancer (H350). Causes skin irritation (H315). Harmful if inhaled (H332). May cause drowsiness or dizziness (H336).

Target Organs:

May cause damage to organs (Blood/Blood Forming Organs, Liver, Thymus) through prolonged or repeated

exposure (H373).

Environmental Hazards: Toxic to aquatic life with long lasting effects (H411).

PRECAUTIONARY STATEMENTS:

General: Keep out of reach of children (P102). Read label before use (P103).

Prevention: Do not handle until all safety precautions have been read and understood (P202). Keep away from heat, sparks, open flames and other ignition sources. No smoking (P210). Obtain special instructions before use (P201). Ground and bond container and receiving equipment (P240). Keep container tightly closed (P233). Avoid release to the environment (P273). Wash thoroughly after handling (P264). Use explosion-proof electrical/ventilating/lighting equipment (P241). Use non-sparking tools (P242). Take action to prevent static discharge (P243). Do not breathe dust/fume/gas/mist/vapours/spray (P260). Use only outdoors or in a well-ventilated area (P271). Wear protective gloves/protective clothing/eye protection/face protection (P280).

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340). Call a POISON CENTER/doctor if you feel unwell (P312). IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower (P303+P361+P353). If skin irritation occurs: Get medical advice/attention (P332+P313). IF SWALLOWED: Immediately call a POISON CENTER/doctor (P301+P310). Do NOT induce vomiting (P331). IF exposed or concerned: Get medical advice/attention (P308+P313). In case of fire: Use media specified in the SDS to extinguish (P370+P378). Specific treatment (see Notes to Physician on this label) (P321). Collect spillage (P391).

Storage: Store locked up (P405). Store in a well-ventilated place. Keep container tightly closed (P403+P233). Store in a well-ventilated place. Keep cool (P403+P235).

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

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Total sulfur	Mixture	0 - 5000 ppm
Diesel Fuel No. 2	68476-34-6	80 - 100 %volume
Renewable Diesel	Mixture	10 - 30 %volume
Fatty Acid Methyl Esters (FAME)	Mixture	0 - 5 %volume
Naphthalene	91-20-3	0.1 - 1 %volume

Note that the actual concentration or concentration range of some or all of the above ingredients is considered confidential business information and is being withheld as permitted by WHMIS 2015.

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin causes irritation. Symptoms may include pain, itching, discoloration, swelling, and blistering. Contact with the skin is not expected to cause an allergic skin response.

Ingestion: Highly toxic; may be fatal if swallowed. Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.

Inhalation: May be harmful if inhaled. Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:

Cancer: Whole diesel engine exhaust has been classified as a Group 2A carcinogen (probably carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Prolonged or repeated exposure to this material may cause cancer. Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit based on animal data: Liver Blood/Blood Forming Organs Thymus See Section 11 for additional information. Risk depends on duration and level of exposure.

Indication of any immediate medical attention and special treatment needed

Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Unusual Fire Hazards: See Section 7 for proper handling and storage.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive force. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches.

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Do not breathe mist. Wash thoroughly after handling. Keep out of the reach of children.

Unusual Handling Hazards: Slow heat generation may occur with oil-soaked rags, spent filter aids and spent absorbent material and may cause spontaneous combustion if stored near combustibles and not handled properly. Store biodiesel soaked rags, filter aids, and spill absorbent material in approved safety disposal containers and dispose of properly. Biodiesel soaked rags may be washed with soap and water and allowed to dry in well ventilated area. **WARNING!** Do not use as portable heater or appliance fuel. Toxic fumes may accumulate and cause death.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces . USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Chlorinated Polyethylene (or Chlorosulfonated Polyethylene), Nitrile Rubber, Polyurethane, Viton.

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors.

When used as a fuel, this material can produce carbon monoxide in the exhaust. Determine if airborne concentrations are below the occupational exposure limit for carbon monoxide. If not, wear an approved positive-pressure air-supplying respirator.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide

adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	Form	TWA	STEL	Ceiling	Notation
Diesel Fuel No. 2	ACGIH	Inhalable fraction and vapor	100 mg/m ³	--	--	Skin total hydrocarbon
Diesel Fuel No. 2	ACGIH	Vapor	100 mg/m ³	--	--	Skin
Diesel Fuel No. 2	ACGIH	Vapor and aerosol	100 mg/m ³	--	--	Skin total hydrocarbon
Diesel Fuel No. 2	CVX	Vapor and aerosol	100 mg/m ³	--	--	Skin total hydrocarbon
Naphthalene	ACGIH	Vapor	10 ppm	15 ppm	--	A4 Skin
Naphthalene	ACGIH	--	10 ppm	--	--	Skin

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard Z94.4-2011 Selection, Use and Care of Respirators.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Varies depending on specification

Physical State: Liquid

Odor: Petroleum odor

Odor Threshold: Not available

pH: Not Applicable

Vapor Pressure: 0.04 kPa (Approximate) @ 40 °C (104 °F)

Vapor Density (Air = 1): >1

Initial Boiling Point: 175.6°C (348.1°F) - 370°C (698°F)

Solubility: Soluble in hydrocarbons; insoluble in water

Freezing Point: Not Applicable

Melting Point: Not Applicable

Specific Gravity: 0.80 - 0.88 @ 15.6°C (60.1°F) (Typical)

Density: Not available

Viscosity: 1.90 cSt - 4.10 cSt @ 40°C (104°F)

Coefficient of Therm. Expansion / °F: Not available

Evaporation Rate: Not available

Decomposition temperature: Not available

Octanol/Water Partition Coefficient: Not available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): Not Available

Flashpoint: (Pensky-Martens Closed Cup) 52 °C (125 °F) (Minimum)

Autoignition: 257 °C (494 °F)

Flammability (Explosive) Limits (% by volume in air): Lower: 0.6 Upper: 4.7

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Avoid contact with heat, sparks, fire and oxidizing agents

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.
Sensitivity to Mechanical Impact: No.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for similar materials.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for similar materials.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials. For additional information on the acute toxicity of the components, call the technical information center.

Acute Toxicity Estimate (inhalation): 1.2 mg/l

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains gas oils.

CONCAWE (product dossier 95/107) has summarized current health, safety and environmental data available for a number of gas oils, typically hydrodesulfurized middle distillates, CAS 64742-80-9, straight-run middle distillates, CAS 64741-44-2, and/or light cat-cracked distillate CAS 64741-59-9. **CARCINOGENICITY:** All materials tested have caused the development of skin tumors in mice, but all featured severe skin irritation and sometimes a long latency period before tumors developed. Straight-run and cracked gas oil samples were studied to determine the influence of dermal irritation on the carcinogenic activity of middle distillates. At non-irritant doses the straight-run gas oil was not carcinogenic, but at irritant doses, weak activity was demonstrated. Cracked gas oils, when diluted with mineral oil, demonstrated carcinogenic activity irrespective of the occurrence of skin irritation. Gas oils were tested on male mice to study tumor initiating/promoting activity. The results demonstrated that while a straight-run gas oil sample was neither an initiator or promotor, a blend of straight-run and FCC stock was both a tumor initiator and a promoter.

GENOTOXICITY: Hydrotreated & hydrodesulfurized gas oils range in activity from inactive to weakly positive in in-vitro bacterial mutagenicity assays. Mouse lymphoma assays on straight-run gas oils without subsequent hydrodesulfurization gave positive results in the presence of S9 metabolic activation. In-vivo bone marrow cytogenetics and sister chromatic exchange assay exhibited no activity for straight-run components with or without hydrodesulfurization. Thermally or catalytically cracked gas oils tested with in-vitro bacterial mutagenicity assays in the presence of S9 metabolic activation were shown to be mutagenic. In-vitro sister chromatic exchange assays on cracked gas oil gave equivocal results both with and without S9 metabolic activation. In-vivo bone marrow cytogenetics assay was inactive for two cracked gas oil samples. Three hydrocracked gas oils were tested with in-vitro bacterial mutagenicity assays with S9, and one of the three gave positive results. Twelve distillate fuel samples were tested with in-vitro bacterial mutagenicity assays & with S9 metabolic activation and showed negative to weakly positive results. In one series, activity was shown to be related to the PCA content of samples tested.

Two in-vivo studies were also conducted. A mouse dominant lethal assay was negative for a sample of diesel fuel. In the other study, 9 samples of No 2 heating oil containing 50% cracked stocks caused a slight increase in the number of chromosomal aberrations in bone marrow cytogenetics assays. **DEVELOPMENTAL TOXICITY:** Diesel fuel vapor did not cause fetotoxic or teratogenic effects when pregnant rats were exposed on days 6-15 of pregnancy. Gas oils were applied to the skin of pregnant rats daily on days 0-19 of gestation. All but one (coker light gas oil) caused fetotoxicity (increased resorptions, reduced litter weight, reduced litter size) at dose levels that were also maternally toxic.

The National Institute of Occupational Safety and Health (NIOSH) has recommended that whole diesel exhaust be regarded as potentially causing cancer. This recommendation was based on test results showing increased lung cancer in laboratory animals exposed to whole diesel exhaust.

This product contains naphthalene.

GENERAL TOXICITY: Exposure to naphthalene has been reported to cause methemoglobinemia and/or hemolytic anemia, especially in humans deficient in the enzyme glucose-6-phosphate dehydrogenase. Laboratory animals given repeated oral doses of naphthalene have developed cataracts. **REPRODUCTIVE TOXICITY AND BIRTH DEFECTS:** Naphthalene did not cause birth defects when administered orally to rabbits, rats, and mice during pregnancy, but slightly reduced litter size in mice at dose levels that were lethal to the pregnant females. Naphthalene has been reported to cross the human placenta. **GENETIC TOXICITY:** Naphthalene caused chromosome aberrations and sister chromatid exchanges in Chinese hamster ovary cells, but was not a mutagen in several other in-vitro tests. **CARCINOGENICITY:** In a study conducted by the National Toxicology Program (NTP), mice exposed to 10 or 30 ppm of naphthalene by inhalation daily for two years had chronic inflammation of the nose and lungs and increased incidences of metaplasia in those tissues. The incidence of benign lung tumors (alveolar/bronchiolar adenomas) was significantly increased in the high-dose female group but not in the male groups. In another two-year inhalation study conducted by NTP, exposure of rats to 10, 30, and 60 ppm naphthalene caused increases in the incidences of a variety of nonneoplastic lesions in the nose. Increases in nasal tumors were seen in both sexes, including olfactory neuroblastomas in females at 60 ppm and adenomas of the respiratory epithelium in males at all exposure levels. The relevance of these effects to humans has not been established. No carcinogenic effect was reported in a 2-year feeding study in rats receiving naphthalene at 41 mg/kg/day.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

A series of studies on the acute toxicity of 4 diesel fuel samples were conducted by one laboratory using water accommodated fractions. The range of effective (EC50) or lethal concentrations (LC50) expressed as loading rates were: This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

72 hour(s) EC50: 2.6-25 mg/l (*Selenastrum capricornutum*)

96 hour(s) LC50: 21-210 mg/l (*Salmo gairdneri*)

48 hour(s) EC50: 20-210 mg/l (*Daphnia magna*)

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. On release to the environment the lighter components of diesel fuel will generally evaporate but depending on local environmental conditions (temperature, wind, mixing or wave action, soil type, etc.) the remainder may become dispersed in the water column or absorbed to soil or sediment. Diesel fuel would not be expected to be readily biodegradable. In a modified Strum test (OECD method 301B) approximately 40% biodegradation was recorded over 28 days. However, it has been shown that most hydrocarbon components of diesel fuel are degraded in soil in the presence of oxygen. Under anaerobic conditions, such as in anoxic sediments, rates of biodegradation are negligible.

The product has not been tested. The statement has been derived from products of a similar structure and composition.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by USEPA under RCRA (40CFR261), Environment Canada, or other State, Provincial, and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: SEE IMO/IMDG SHIPPING DESCRIPTION OR REFERENCE BILL OF LADING

IMO/IMDG Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) \geq 23 deg C, \leq 60 deg C: UN1202, GAS OIL, 3, III, FLASH POINT SEE SECTION 5 OR 9, MARINE POLLUTANT (DIESEL FUEL); OPTIONAL DISCLOSURE: UN1268, PETROLEUM DISTILLATES, N.O.S. (DIESEL FUEL), 3, III, FLASH POINT SEE SECTION 5 OR 9, MARINE POLLUTANT (DIESEL FUEL) For packages with a Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

ICAO/IATA Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) \geq 23 deg C, \leq 60 deg C: UN1202, GAS OIL, 3, III For packages with a Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

DOT Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) \geq 23 deg C but \leq 60 deg C: UN1202, GAS OIL, 3, III; OPTIONAL DISCLOSURE: UN1202, GAS OIL, 3, III, MARINE POLLUTANT (DIESEL FUEL) Optional disclosure per 49 CFR when Flash Point (PM Closed Cup) \geq 38 deg C < 93 deg C per 49 173.150 (f): UN1202, GAS OIL, COMBUSTIBLE LIQUID, III; NON-BULK PACKAGES ARE EXEMPTED FROM THE PROVISIONS OF 49 CFR IN USA JURISDICTIONS Optional disclosure as a GHS Environmental Hazard/Marine Pollutant when Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1
01-2 A=IARC Group 2A
01-2B=IARC Group 2B

The following components of this material are found on the regulatory lists indicated.

Naphthalene 01-2B

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: DSL (Canada), TSCA (United States).

SECTION 16 OTHER INFORMATION

- REVISION STATEMENT:** SECTION 03 - Composition information was added.
- SECTION 03 - Composition information was deleted.
- SECTION 04 - Immediate Health Effects - Inhalation information was modified.
- SECTION 07 - Precautionary Measures information was modified.
- SECTION 07 - Unusual Handling Hazards information was modified.
- SECTION 08 - General Considerations information was modified.
- SECTION 08 - Occupational Exposure Limit Table information was modified.
- SECTION 09 - Physical/Chemical Properties information was added.
- SECTION 09 - Physical/Chemical Properties information was deleted.
- SECTION 09 - Physical/Chemical Properties information was modified.
- SECTION 11 - Additional Toxicology Information information was deleted.
- SECTION 11 - Toxicological Information information was added.
- SECTION 11 - Toxicological Information information was deleted.
- SECTION 15 - Chemical Inventories information was modified.
- SECTION 15 - Regulatory Information information was modified.

Revision Date: April 16, 2020

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
WHMIS - Workplace Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the WHMIS 2015 by Chevron Energy Technology Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.



Revision date: 7-12-22

Date of issue: 8-07-2018

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Trade name: YELLOW 77[®] Wire Pulling Lubricant

SECTION 1: Identification

Product identifier: YELLOW 77[®] Wire Pulling Lubricant.
Synonyms: None available.
Product Code Number: 31-358, 31-351, 31-355, 31-365.
SDS number: ID023
Recommended use: Wire Pulling Lubricant.
Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information:

Company Name: IDEAL INDUSTRIES, INC.
Company Address: Becker Place,
Sycamore, IL 60178
Company Telephone: Office hours (Mon – Fri)
7AM - 5 PM (CDT)
(815)895-5181
Company Contact Name: Darryl Docter.
Company Contact Email: IDEAL@IDEALINDUSTRIES.COM
Emergency phone number: 24 HOUR EMERGENCY NUMBER:
(815)895-5181.

SECTION 2: Hazard(s) identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200:

Physical hazards

Not classified as a physical hazard under GHS criteria.

Health hazards

Not classified as a health hazard under GHS criteria

Environmental hazards

Not classified as an environmental hazard under GHS criteria.

GHS Signal word: Not applicable.

GHS Hazard statement(s): Not applicable.

GHS Hazard symbol(s): Not applicable

GHS Precautionary statement(s):

Prevention:

No prevention precautionary statements required.

Response:

No response precautionary statements required

Storage:

No storage precautionary statements required.

Disposal:

No disposal precautionary statements required.

Hazard(s) not otherwise

Classified (HNOC): None known.

Percentage of ingredient(s) of unknown acute toxicity:

Not applicable

SECTION 3: Composition/information on ingredients

Mixture:

Chemical name	CAS#	Concentration (weight %)
None of the chemical raw materials contained in this formulation are considered hazardous under the Federal Hazards Communication Standard 29 C. F. R 1910.1200		

SECTION 4: First-aid Measures

Description of necessary measures:

Inhalation: Move to fresh air. Get medical attention if symptoms develop.

Skin contact: Wash off with warm water and soap for 15 minutes. Get medical attention if irritation develops or persists.

Eye contact: Flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Ingestion: Induce vomiting. Consult physician or local poison control center.

Most important symptoms/effects, acute and delayed: None normally expected. Upon prolonged contact, may cause temporary eye discomfort. If material is used in extreme heat (>120° F), prolonged and repeated exposure could pose a risk of pulmonary disease.

Indication of immediate medical attention and special treatment needed: If any symptoms are observed, contact a physician and give them this SDS sheet.

SECTION 5: Fire-fighting measures

Suitable extinguishing media: Not flammable by OSHA criteria. Use extinguishing media suitable for surrounding materials.

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: None expected.
Combustion products - Excessive heat and burning may release oxides of carbon and nitrogen.

Special protective equipment and precautions for fire-fighters: Containers should be cooled with water to prevent vapor pressure build up. Cool containers with flooding quantities of water until well after fire is out. Move containers from fire area if you can do so without risk. For fire involving this material, do not enter any enclosed or confined fire space without proper protective equipment. Use self-contained breathing apparatus with full face shield to protect against the hazardous effects of combustion products and oxygen deficiencies.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures: Isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Methods and material for containment and cleaning up:

Wipe up, shovel or vacuum spilled material. Clean up spills immediately as they can be dangerously slippery.

SECTION 7: Handling and Storage

Precautions for safe handling: Keep away from children, infants and pets. Avoid contact with skin. Avoid contact with eyes. Wear personal protective equipment. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8).

Conditions for safe storage, including any incompatibles:

Store at temperatures between 40 - 120° F. Avoid freezing.

SECTION 8: Exposure controls/personal protection

Control Parameters:

Occupational exposure limits:

US OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200): Permissible Exposure Limits		
Substance	PEL-TWA (8 hour)	PEL-STEEL (15 min)
Not applicable		

US ACGIH Threshold Limit Values		
Substance	TLV-TWA (8 hour)	TLV-STEEL (15 min)
Not applicable		

USA. Workplace Environmental Exposure Levels (WEEL)		
Substance	TWA	STEEL
Not applicable		

Appropriate engineering controls: General (mechanical) room ventilation is expected to be adequate. Special local ventilation is recommended to keep mists below exposure limits. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Individual protection measures, such as personal protective equipment:

Eye/face protection: The use of safety glasses or splash goggles are recommended. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US).

Skin and Hand protection: None normally required. If worn, use neoprene. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Respiratory protection: No personal respiratory protective equipment normally required.

Other: Eye fountain in work area is recommended.

Thermal hazards: No data available.

SECTION 9: Physical and chemical properties

Appearance

Physical state:	Paste
Form:	Yellow creamy paste.
Color:	Yellow.
Odor:	Slight odor.
Odor threshold:	No data available
pH:	6.5-8.0.
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	212°F 100°C
Flash point:	None
Evaporation rate:	No data available
Flammability (solid, gas):	The product is not flammable.
Upper/lower flammability or explosive limits	
Flammability limit – lower (%):	Not applicable
Flammability limit – upper (%):	Not applicable
Explosive limit – lower (%):	Not applicable
Explosive limit – upper (%):	Not applicable
Vapor pressure:	No data available
Vapor density:	No data available
Relative Density:	0.97-0.99
Solubility(ies):	Moderate
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	81000 cps @ 1 rpm 158°F 87500 cps @ 1 rpm 77°F
Other information:	
Percent volatile by volume (%):	< 90%
Percent solid by weight:	~20%

SECTION 10: Stability and Reactivity

Reactivity:	Not chemically reactive.
Chemical stability:	Stable under normal ambient and anticipated conditions of use.
Possibility of hazardous reactions:	Hazardous reactions not anticipated.
Conditions to avoid:	None expected.
Incompatible materials:	Avoid strong oxidizers.
Hazardous decomposition Products:	Excessive heat and burning may release oxides of carbon and nitrogen.

SECTION 11: Toxicological information

Information on likely routes of exposure:

- Inhalation:** Not an expected route of entry.
- Ingestion:** Not an expected route of entry.
- Skin:** Skin contact is a primary route of entry.
- Eyes:** Not an expected route of entry.

Symptoms related to the physical, chemical, and toxicological characteristics:

None normally expected. If material is used in extreme heat (>120° F), prolonged and repeated exposure could pose a risk of pulmonary disease.

Delayed and immediate effects and chronic effects from short or long-term exposure:

Upon prolonged contact, may cause temporary eye discomfort.

Numerical measures of toxicity:

Ingredient Information:

Substance	Test Type (species)	Value
Not applicable	LD ₅₀ Oral (Rat)	
	LD ₅₀ Dermal (Rabbit)	
	LC ₅₀ Inhalation (Rat)	

Product Acute Toxicity Estimates:

- Acute Oral Toxicity – no data available
- Acute Dermal Toxicity - no data available
- Acute Inhalation Toxicity - no data available

Skin corrosion/irritation: No information available on the mixture, however none of the components have been classified as skin corrosive/irritant (or are below the concentration threshold for classification).

Serious eye damage/eye irritation: No information available on the mixture, however none of the components have been classified as causing eye damage/eye irritation (or are below the concentration threshold for classification).

Respiratory sensitization: No information available on the mixture, however none of the components have been classified as a respiratory sensitizer (or are below the concentration threshold for classification).

Skin sensitization: No information available on the mixture, however none of the components have been classified as a skin

sensitizer (or are below the concentration threshold for classification).

Germ cell mutagenicity:

No information available on the mixture, however none of the components have been classified for germ cell mutagenicity (or are below the concentration threshold for classification).

Carcinogenicity:

No information available on the mixture, however none of the components are listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.

Reproductive toxicity:

No information available on the mixture, however none of the components have been classified for reproductive toxicity (or are below the concentration threshold for classification).

**Specific target organ toxicity-
Single exposure:**

No information available on the mixture, however none of the components have been classified for STOT SE (or are below the concentration threshold for classification).

**Specific target organ toxicity-
Repeat exposure:**

No information available on the mixture, however none of the components have been classified for STOT RE (or are below the concentration threshold for classification).

Aspiration hazard:

No information available on the mixture, however none of the components have been classified for Aspiration hazard (or are below the concentration threshold for classification).

Further information:

No data available.

SECTION 12: Ecological information

Ecotoxicity:

Product data: No data available

Ingredient Information:

Substance	Test Type	Species	Value
Not applicable	LC ₅₀	Fish	
	LC ₅₀	Aquatic Invertebrates	
	EC ₅₀	Algae	

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal instructions:

This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties.

SECTION 14: Transport Information

US Department of Transportation Classification (49CFR)

This material is not classified as dangerous under DOT regulations.

IMDG

This material is not classified as dangerous under IMDG regulations.

IATA (Country variations may apply)

This material is not classified as dangerous under IATA regulations

Environmental hazards

Marine pollutant: No.

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

No further relevant information available.

Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.

None.

SECTION 15: Regulatory Information

Safety, health and environmental regulations specific for the product.

USA:

United States Federal Regulations: This SDS complies with the OSHA, 29 CFR 1910.1200. The product is not hazardous under OSHA.

Toxic Substances Control Act (TSCA) – All substances in this product are exempt from the TSCA inventory.

SARA Superfund and Reauthorization Act of 1986 Title III sections 302, 311,312 and 313:

Section 302 – No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

CERCLA Hazardous Substance List, 40 CFR 302.4:

None listed.

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

None listed.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3): None listed.

SARA Title III

Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A): None listed.

Section 311/312 (40 CFR 370):

Acute Health Hazard: No

Chronic Health Hazard: No

Fire Hazard: No

Pressure Hazard: No

Reactivity Hazard: No

Section 313 Toxic Release Inventory (40 CFR 372):

This product contains the following materials that are subject to the reporting requirements of Section 313 of EPCRA: None

STATE REGULATIONS:

This SDS contains specific health and safety data is applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

California Proposition 65 (California Safe Drinking Water and Toxic Enforcement Act of 1986: No components are listed on Prop 65 as a carcinogen.

Massachusetts Right to Know: No components are listed on the Massachusetts Right to Know List.

New Jersey Right to Know: No components are listed on the New Jersey Right to Know list.

Pennsylvania Right to Know: No components are listed on the Pennsylvania Right to Know List.

Canada WHMIS Hazard Class: Not applicable.

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

Revision Date: August 7, 2018

To the best of our knowledge, the information contained herein is accurate. However IDEAL INDUSTRIES INC. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.



Safety Data Sheet California CARB Compliant

1 - Identification

Product Name: WD-40 Multi-Use Product Aerosol	Manufacturer: WD-40 Company
Product Use: Lubricant, Penetrant, Drives Out Moisture and Protects Surfaces from Corrosion	Address: 9715 Businesspark Avenue San Diego, California, USA 92131
Restrictions on Use: None identified	Telephone:
SDS Date of Preparation: November 13, 2024	Emergency: 1-888-324-7596
	Information: 1-888-324-7596
	Chemical Spills: 1-800-424-9300 (Chemtrec) 1-703-527-3887 (International Calls)

2 – Hazards Identification

HCS 2024/GHS Classification:

Aerosol Category 1

Aspiration Toxicity Category 1

Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)

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

Label Elements:



DANGER!

Extremely Flammable Aerosol.

Pressurized container: may burst if heated.

May be fatal if swallowed and enters airways.

May cause drowsiness or dizziness.

Prevention

Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. – No smoking.

Do not spray on an open flame or other ignition source.

Do not pierce or burn, even after use.

Avoid breathing vapors or mists.

Use only outdoors or in a well-ventilated area.

Response

IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Storage

Store locked up.

Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C). Store in a well-ventilated place.

Disposal

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

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent	US HSC 2024 / GHS Classification
LVP Aliphatic Hydrocarbon	64742-47-8	45-50%	Aspiration Toxicity Category 1
Petroleum Base Oil	64742-56-9 64742-65-0 64742-53-6 64742-54-7 64742-71-8	<35%	Not Hazardous
Aliphatic Hydrocarbon	64742-47-8	10 - <25%	Flammable Liquid Category 3 Aspiration Toxicity Category 1 Specific Target Organ Toxicity Single Exposure Category 3 (nervous system effects)
Carbon Dioxide	124-38-9	2-3%	Simple Asphyxiant Gas Under Pressure, Compressed Gas

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

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.

Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.

Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

Signs and Symptoms of Exposure: Harmful or fatal if swallowed. Aspiration of liquid into the lungs during swallowing or vomiting may cause lung damage. May cause eye and respiratory irritation. Inhalation of mists or vapors may cause drowsiness, dizziness, and other nervous system effects. Skin contact may cause drying of the skin.

Indication of Immediate Medical Attention/Special Treatment Needed: Immediate medical attention is needed for ingestion.

5 – Fire Fighting Measures

Suitable (and unsuitable) Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.

Specific Hazards Arising from the Chemical: Extremely flammable aerosol. Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Combustion will produce oxides of carbon and hydrocarbons.

Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

6 – Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate the area.

Methods and Materials for Containment/Cleanup: Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

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

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

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
LVP Aliphatic Hydrocarbon	1200 mg/m ³ TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m ³ TWA (Inhalable) ACGIH TLV (as Mineral oil) 5 mg/m ³ TWA OSHA PEL (as Oil mist, mineral)
Aliphatic Hydrocarbon	1200 mg/m ³ TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA, 30,000 ppm STEL ACGIH TLV 5000 ppm TWA OSHA PEL

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

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

Personal Protection:

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

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

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

For Bulk Processing or Workplace Use the Following Controls are Recommended

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

Personal Protection:

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

Skin Protection: Wear chemical resistant gloves.

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

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

9 – Physical and Chemical Properties

Physical State:	Liquid packaged as aerosol	Color:	Light green to amber
Odor:	Mild petroleum odor	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Relative Vapor Density:	0.8 – 0.82 @ 60°F	Vapor Pressure:	95-115 PSI @ 70°F
pH:	Not Applicable	Relative Density:	
Melting/Freezing Point:	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	138°F (59°C) Tag Closed Cup (liquid)	Autoignition Temperature:	Not established
Particle Characteristics:	Not applicable	Decomposition Temperature:	Not established
Flammability:	Flammable Aerosol	Kinematic Viscosity:	2.79-2.96 cSt @ 100°F

VOC:	24.1% MIR=0.43gO3/gVOC	Pour Point:	-63°C (-81.4°F) ASTM D-97
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10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions

Chemical Stability: Stable

Possibility of Hazardous Reactions: May react with strong oxidizers generating heat.

Conditions to Avoid: Avoid heat, sparks, flames, and other sources of ignition. Do not puncture or incinerate containers.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

Symptoms of Overexposure:

Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness, and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.

Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.

Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.

Chronic Effects: None expected.

Carcinogen Status: None of the components are listed as a carcinogen or suspect carcinogen by IARC, NTP, ACGIH or OSHA.

Reproductive Toxicity: None of the components is considered a reproductive hazard.

Numerical Measures of Toxicity:

Acute Toxicity Estimates: Oral > 5,000 mg/kg; Dermal >2,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard.

12 – Ecological Information

Ecotoxicity: No specific aquatic toxicity data is currently available; however components of this product are not expected to be harmful to aquatic organisms

Persistence and Degradability: Components are readily biodegradable.

Bioaccumulative Potential: Bioaccumulation is not expected based on an assessment of the ingredients.

Mobility in Soil: No data available

Other Adverse Effects: None known.

13 - Disposal Considerations

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

14 – Transportation Information

DOT Surface Shipping Description: UN1950, Aerosols, 2.1 Ltd. Qty

(Note: Shipping Papers are not required for Limited Quantities unless transported by air or vessel – each package must be marked with the Limited Quantity Mark)

IMDG Shipping Description: UN1950, Aerosols, 2.1, LTD QTY

ICAO Shipping Description: UN1950, Aerosols, flammable, 2.1

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

15 – Regulatory Information

U.S. Federal Regulations:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state, and local regulations.

SARA TITLE III:

Hazard Category for Section 311/312: Refer to Section 2 for the OSHA Hazard Classification.

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All the components of this product are listed on the TSCA inventory.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not require a California Proposition 65 warning.

VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.

Canadian Environmental Protection Act: All the ingredients are listed on the Canadian Domestic Substances List or exempt from notification.

16 – Other Information

HMIS Hazard Rating:

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

Revision Date: November 13, 2024

Supersedes: May 16, 2024

Revision Summary: Updates to conform to HCS 2024 – changes to sections 2, 3 and 9.

Prepared by: IHSC, LLC. Milford, CT, USA

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Regulatory Affairs Dept.

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