

# MATERIAL SAFETY DATA SHEET

Trade Name: NAPA Premium Starting Fluid  
 MSDS NO. 7216  
 Revision Date: 04/10/2006  
 Date Printed: 07/19/2006

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: NAPA Premium Starting Fluid  
 Chemical Family: ETHER  
 Synonyms: None  
 Emergency Telephone (24 hr.): 24-Hour Emergency Information: CHEMTREC (800) 424-9300

Supplier: NAPA, P. O. Box 421268, Indianapolis, IN 46241

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient/CAS No.	wt. %	OSHA PEL TWA	OSHA PEL Ceiling Limits	ACGIH TLV TWA	ACGIH TLW STEL
Heptane 142-82-5	40-50	500 ppm: 2000 mg/m3	None Established	400 ppm: 1640 mg/m3	500 ppm
Ethyl Ether 60-29-7	23-30	400 ppm	None Established	400 ppm	500 ppm
Propane 74-98-6	15-25	1000 ppm	Not Known	2500 ppm	Not Known
Carbon Dioxide 124-38-9	2-10	5000 ppm (exposures <10,000 ppm to be cited de minimus)	Not Known	5000 ppm	30,000 ppm
Iso-Butane 75-28-5	5-15	None Established	None Established	None Established	None Established
Lubricating Oil 64742-52-5	0-5	Not known	Mist 5 mg/m3	TLV Mist 5 mg/m3 8 HR.	Not Known

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This product contains trace amounts of (<15 ppm) of Butylated hydroxytoluene (BHT) as an inhibitor to prevent or reduce the formation of potentially explosive peroxides.

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:** Keep away from heat, sparks and flame. This material is irritating to skin, eyes and respiratory tract. Breathing high concentrations of vapor or mist may cause nausea, vomiting, central nervous system (CNS) depression and asphyxiation. Symptoms may include headache, dizziness, blurred vision, slurred speech, memory loss, confusion, fatigue, loss of consciousness, convulsions, paralysis, or coma. Prolonged or repeated inhalation or ingestion may result in kidney and liver changes. Danger: Extremely flammable.

**HMIS Classification:** Health: \*2 Flammability: 4 Physical Hazard: 2  
**NFPA Rating:** Health: 2 Flammability: 4 Reactivity: 1

## 4. FIRST AID MEASURES

**Eye Contact:** In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing. Do not permit victim to rub eyes.

**Ingestion:** Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

**Inhalation:** If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes, and launder before reuse. If irritation persists or signs of toxicity occur, seek medical attention. Wash with soap and water for 15 minutes.

## 5. FIRE FIGHTING MEASURES

**Flammable Properties**

**Flash Point °F(°C):** <-10 F

**Flash Point Method:** TAG Closed Cup

**Flammable Limits in Air - Lower (%):** 1.2% (Lowest Component)

**Flammable Limits in Air - Upper (%):** 6.7% (Lowest Component)

**Autoignition Temperature °F(°C):** 356 F (Lowest Component)

**Extinguishing Media:** Alcohol foam. Carbon dioxide. Dry chemical. Use water spray to keep containers cool that are exposed to heat or flames.

**Protection Of Fire-Fighters:**

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**Special Fire-Fighting Procedures:** Wear approved positive-pressure self-contained breathing apparatus and protective clothing. Fight from a maximum distance or use unmanned hose holders or monitor nozzles. Containers can build up pressure if exposed to heat; cool with flooding quantities of water until well after the fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of vessel. Vapor may cause flash fire.

**Hazardous Combustion Products:** Carbon Dioxide. Carbon Monoxide.  
**Aerosol Comments:** NFPA Level 3 Aerosol

### 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Wear appropriate protective clothing and equipment to prevent skin and eye contact.  
**Spill Procedures:** Contain any liquid from leaking containers. Avoid all sources of ignition; heat, sparks and open flames. Wear proper protective equipment as specified in the protective equipment section. Remove sources of ignition. Leaking containers should be removed to an isolated, well-ventilated area and transferred to other suitable containers. Do not puncture or incinerate container. Contents under pressure. Wipe, scrape, or soak up in an inert material and put in a container intended for flammable materials for disposal.  
**Environmental Precautions:** Do not allow to enter sanitary drains, sewer or surface and subsurface waters. Keep out of lakes, ponds or streams.

### 7. HANDLING AND STORAGE

**Handling and Storage:** Avoid breathing vapors, if exposed to high vapor concentration, leave area at once. Avoid contact with skin and eyes. Use only in a well ventilated area. Caution: Contents under pressure. Keep away from heat and open flame. Do not puncture, incinerate or store above 120 F. Exposure to high temperatures may cause bursting. Store in a cool, dry place, out of direct sunlight. DO NOT store in the passenger compartment of an automobile.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Local exhaust ventilation as necessary to maintain exposures to within applicable limits. Use in a well ventilated area.  
**Eyes:** Chemical goggles; also wear a face shield if splashing hazard exists.  
**Skin Protection:** Avoid skin contact. Wear protective clothing and gloves.  
**Respiratory Protection:** Use in a well ventilated area. Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure. Do not breath mist or vapor.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Colorless to pale yellow liquid  
**Odor:** PUNGENT SWEET  
**pH Value:** Not Determined  
**Vapor Pressure:** Not Determined  
**Vapor Density (Air=1):** >1.5 Approximate  
**Boiling Point (°F):** -44 F (Lowest Component)  
**Melting/Freezing Point:** Freezing -176F (Ether)  
**Solubility in Water:** PARTLY SOLUBLE  
**Bulk Density at 20°C:** Not Determined  
**Molecular Weight:** Mixture  
**Specific Gravity (H2O=1):** Not Determined  
**Viscosity:** Not Determined.  
**Evaporation Rate:** Not Determined  
**VOC Content(%):** Not determined.  
**Decomposition Temperature:** Not Determined

### 10. STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal conditions of handling, use and transportation.  
**Conditions to Avoid:** Keep away from heat, sparks and flame. Avoid any source of ignition. Do not expose to heat or store at temperatures above 120 F.  
**Materials to Avoid:** Contact with oxidizing agents. Nitric acid. Concentrated oxygen. Avoid contact with chlorine in the presence of light.  
**Hazardous Decomposition Products:** Carbon monoxide. and other asphxiants. Explosive peroxides. Will react with nitric acid to form explosive nitrates.  
**Hazardous Polymerization:** WILL NOT OCCUR

### 11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Ingredient/CAS No.	wt. %	Route	Species	Dose
Heptane 142-82-5	40-50	Inhalation	Rats	LC50 103 gm/m3/4H
Ethyl Ether 60-29-7	23-30	Inhalation	Mice	LC50 31000 ppm/30M
Propane	15-25	NA	NA	Not known.

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Ingredient/CAS No.	wt. %	Route	Species	Dose
74-98-6				
Carbon Dioxide 124-38-9	2-10	NA	NA	Not known.
Iso-Butane 75-28-5	5-15	Inhalation	Rats	LC50 57 pph/15M
Lubricating Oil 64742-52-5	0-5	NA	NA	Not known.

**Carcinogenicity:**

Ingredient/CAS No.	wt. %	IARC	NTP	OSHA
Heptane 142-82-5	40-50	Not Listed	Not Listed	Not Listed
Ethyl Ether 60-29-7	23-30	Not Listed	Not Listed	Not Listed
Propane 74-98-6	15-25	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	2-10	Not Listed	Not Listed	Not Listed
Iso-Butane 75-28-5	5-15	Not Listed	Not Listed	Not Listed
Lubricating Oil 64742-52-5	0-5	Not Listed	Not Listed	Not Listed

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### 12. ECOLOGICAL INFORMATION

Ecological testing has not been conducted on this product.

### 13. DISPOSAL CONSIDERATION

**Waste Classification:** Residues and spilled material are hazardous waste due to ignitability.  
**Waste Management:** Not determined.  
 Disposal should be made in accordance with federal, state and local regulations.

### 14. TRANSPORTATION INFORMATION

**U.S. DOT:**  
 Proper Shipping Name: Consumer Commodity  
 Hazard Class: ORM-D  
 UN/NA Number: Not Applicable  
 DOT Packing Group: Not Applicable

**IMDG:**  
 Proper Shipping Name: Aerosols (Limited Quantity)  
 Hazard Class: 2.1  
 Hazard Subclass: Not Applicable  
 UN No.: UN 1950  
 Packing Group: Not Applicable  
 Marine Pollutant: No

### 15. REGULATORY INFORMATION

**US Federal Regulations:**

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Ingredient/CAS No.	wt. %	SARA 313	SARA 302	RQ	TPQ
Heptane 142-82-5	40-50	Not Listed	Not Listed	NA	NA
Ethyl Ether 60-29-7	23-30	Not Listed	Not Listed	100 lbs.	NA
Propane 74-98-6	15-25	Not Listed	Not Listed	NA	NA
Carbon Dioxide 124-38-9	2-10	Not Listed	Not Listed	NA	NA
Iso-Butane 75-28-5	5-15	Not Listed	Not Listed	NA	NA
Lubricating Oil 64742-52-5	0-5	Not Listed	Not Listed	NA	NA

Hazardous per OSHA 29 CFR 1910.1200

SARA 311/312 Hazard Categories: Immediate/Acute, Delayed/Chronic, Fire

State Regulations:

Ingredient/CAS No.	wt. %	California Prop. 65 Cancer list	California Prop. 65 Developmental Toxicity	California Prop. 65 Reproductive Female	California Prop. 65 Reproductive Male
Heptane 142-82-5	40-50	Not Listed	Not Listed	Not Listed	Not Listed
Ethyl Ether 60-29-7	23-30	Not Listed	Not Listed	Not Listed	Not Listed
Propane 74-98-6	15-25	Not Listed	Not Listed	Not Listed	Not Listed
Carbon Dioxide 124-38-9	2-10	Not Listed	Not Listed	Not Listed	Not Listed
Iso-Butane 75-28-5	5-15	Not Listed	Not Listed	Not Listed	Not Listed
Lubricating Oil 64742-52-5	0-5	Not Listed	Not Listed	Not Listed	Not Listed

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U.S. TSCA: The components of this product are listed on the TSCA Inventory.

### 16. OTHER INFORMATION

**General Notes:** Do not allow undiluted material or large quantities to reach groundwater, bodies of water or sewer system.

**Disclaimer:**

The information and recommendations contained herein are based upon tests believed to be reliable. However, the manufacturer/distributor of this product does not guarantee their accuracy or completeness NOR SHALL ANY OF THIS INFORMATION CONSTITUTE A WARRANTY, WHETHER EXPRESSED OR IMPLIED, AS TO THE SAFETY OF THE GOODS, THE MERCHANTABILITY OF THE GOODS, OR THE FITNESS OF THE GOODS FOR A PARTICULAR PURPOSE. Adjustment to conform to actual conditions of usage may be required. The manufacturer/distributor assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

MATERIAL SAFETY DATA SHEET  
May be used to comply with  
OSHA's Hazard Communication  
Standard, 29CFR 1910.2100.

U.S. DEPARTMENT OF LABOR  
Occupational Safety and  
Health Administration  
(Non-Mandatory Form)

006-NOZZLE GEL

100-NOZZLE-PIP 1602

KCI, INC  
3710 N. DAVIDSON STREET  
CHARLOTTE, N.C. 28205

CHEMTREC (24-HOUR) 800-424-9300  
INFORMATION 704-372-8435  
DATE PREPARED: JANUARY 14, 2004

SECTION II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous components OSHA PEL ACGIH TLV % (optional)  
None N/A N/A

The ingredients in this product are not listed in 29 CFR 1910 Subpart 2 nor do they appear in "Threshold Limit Values for Chemical Substances in the work environment adopted by ACGIH for 1985-86." They are also not reportable under Section 313 of Title III of SARA.

SECTION III-PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: NDA Specific Gravity(H<sub>2</sub>O=1) .815-.880  
Vapor Pressure: NDA Melting Point: 100.4-140 F  
Vapor Density: NDA Evaporation Rate: NDA  
(BUTYL-1)

Solubility in Water: NIL  
Appearance and Odor: Opaque, no odor  
Volatile (by weight %): 0 at 25C.

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SECTION IV-FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) Flammable Limits LEL UEL  
Greater than 390F (astm D-92) NDA NDA NDA

Extinguishign Media: Carbon dioxide, dry chemical or foam.  
Special Firefighting Procedures: Pressure-demand, self-contained protection should be provided.  
Water spray is an unsuitable extinguishing agent.

Unusual Fire and Explosion Hazards: NONE

SECTION V-REACTIVITY DATA

Stability Unstable: Conditions to Avoid  
NONE

Stable :X

Incompatibility (Materials to Avoid)  
N/A

Hazardous Decomposition or Byproducts  
N/A

Hazardous Polymerization: Conditions to Avoid  
May Occur: N/A

Will Not Occur: X

SECTION VI-HEALTH HAZARD DATA

Route(s) of Entry: Inhalation: NO Skin: NO Ingestion: NO

Health Hazards (Acute and Chronic)

Acute-None

Chronic-None

Carcinogenicity: No NTP N/A IARC Monographs N/A OSHA N/A

Signs and Symptoms of Exposure: NDA

Emergency First Aid Procedures: Eyes: flush eyes with water for  
15 minutes. Skin: wash with soap  
& water. Inhalation: remove to  
fresh air. Call physician.  
Ingestion: drink water.

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SECTION VII-PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material Is Released or Spilled:

Shut off leak and dike up large spills. After cooling and solidification, scrape and/or shovel up material. Finally, clean area with an oil absorbent material.

Waste Disposal Method:

Dispose of in accordance with local, state, and federal regulations.

Precautions to Be Taken in Handling and Storing:

Store away from flame, heat (250F) maximum. Also keep away from strong oxidizing agents.

Other Precautions:

None

SECTION VIII-CONTROL MEASURES

Respiratory Protection (Specify type)  
None required.

Ventilation: Local Exhaust-N/A

Special-N/A

Mechanical- N/A

Other-N/A

Protective Gloves- Impervious when molten.

Eye Protection-Wear a face shield if product is molten

Other Protective Clothing: When molten, wear coveralls.

Work/Hygienic Practices: NDA

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006-NOZZLE GEL

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NEW JERSEY RIGHT TO KNOW INFORMATION (HAZARDOUS & NON-HAZARDOUS)

USP PETROLATUM	CAS# 8009-03-8	99.5%	
ANTHRAQUINONE BLUE DYE	CAS#14233-37-5		.5%

PERCENT VOLATILES: NIL  
VOC'S: NONE

HAZARD RATINGS  
FIRE-1  
REACTIVITY-0  
TOXICITY-0  
SPECIAL-NONE

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# Oxygen

## Section 1. Chemical product and company identification

Oxygen

AIRGAS INC., on behalf of its subsidiaries  
259 North Radnor-Chester Road  
Suite 100  
Radnor, PA 19087-5283  
1-610-687-5253

Synthetic/Analytical chemistry.

oxygen (dot), Oxygen USP, Aviator's Breathing Oxygen (ABO)  
001043

7/30/2007.

1-866-734-3438

## Section 2. Hazards identification

Gas.

Warning!

OXIDIZER.

CONTENTS UNDER PRESSURE.

Contact with combustible material may cause fire.

Do not puncture or incinerate container. Store in tightly closed container. Avoid contact with combustible materials.

Contact with rapidly expanding gases or liquids can cause frostbite.

Inhalation

No known significant effects or critical hazards.

No known significant effects or critical hazards.

Slightly irritating to the respiratory system. Practically non-toxic by inhalation.

Ingestion is not a normal route of exposure for gases

**CARCINOGENIC EFFECTS** Not available.

**MUTAGENIC EFFECTS** Not available.

**TERATOGENIC EFFECTS** Not available.

Acute or chronic respiratory conditions may be aggravated by overexposure to this gas.

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See toxicological Information (section 11)

## Section 3. Composition, Information on Ingredients

Oxygen

7782-44-7 100

## Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If fumes are still suspected to be present, the rescuer should wear an appropriate mask or a self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Try to warm up the frozen tissues and seek medical attention.

## Oxygen

If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention.

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

## Section 5. Fire fighting measures

Non-flammable.

Use an extinguishing agent suitable for surrounding fires.

If involved in fire, shut off flow immediately if it can be done without risk. Apply water from a safe distance to cool container and protect surrounding area.

This material increases the risk of fire and may aid combustion. Contact with combustible material may cause fire.

Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

## Section 6. Accidental release measures

Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Do not touch or walk through spilled material.

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

## Section 7. Handling and storage

Store in tightly closed container. Avoid contact with combustible materials. Do not puncture or incinerate container. High pressure gas. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.

Keep container tightly closed. Keep container in a cool, well-ventilated area. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

## Section 8. Exposure Controls, Personal Protection

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

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 or dusts.

When working with cryogenic liquids, wear a full face shield.

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.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93

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## Oxygen

Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Insulated gloves suitable for low temperatures

A self-contained breathing apparatus should be used to avoid inhalation of the product.

Consult local authorities for acceptable exposure limits.

## Section 9. Physical and chemical properties

32 g/mole

O<sub>2</sub>

-183.11°C (-297.6°F)

-218.55°C (-361.4°F)

Not available.

1.105 (Air = 1)

12.0482

0.083

## Section 10. Stability and reactivity

The product is stable.

Extremely reactive or incompatible with reducing agents, combustible materials.


## Section 11. Toxicological information

No specific information is available in our database regarding the other toxic effects of this material for humans.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

No known significant effects or critical hazards.

  
OXYGEN

## Section 12. Ecological information

The product itself and its products of degradation are not toxic.


Not available.

No known significant effects or critical hazards.



Not available.

## Section 13. Disposal considerations

## Section 14. Transport information

	UN1072	OXYGEN, COMPRESSED	2.2	Not applicable (gas).		<b>Limited quantity</b> Yes.
	UN1073	Oxygen, refrigerated liquid				<b>Packaging instruction</b> Passenger

Oxygen

						<p><b>Aircraft</b> Quantity limitation: 75 kg</p> <p><b>Cargo Aircraft</b> Quantity limitation: 150 kg</p> <p><b>Special</b> <b>provisions</b> A52</p>
	UN1072  UN1073	OXYGEN, COMPRESSED  Oxygen, refrigerated liquid	2.2	Not applicable (gas).		<p><b>Explosive</b> <b>Limit and</b> <b>Limited</b> <b>Quantity</b> <b>Index</b> 0.125</p> <p><b>ERAP Index</b> 3000</p> <p><b>Passenger</b> <b>Carrying Ship</b> <b>Index</b> 50</p> <p><b>Passenger</b> <b>Carrying</b> <b>Road or Rail</b> <b>Index</b> 75</p> <p><b>Special</b> <b>provisions</b> 42</p>
	UN1072  UN1073	OXYGEN, COMPRESSED  Oxygen, refrigerated liquid	2.2	Not applicable (gas).		-

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**Section 15. Regulatory information**

TSCA 8(b) inventory: Oxygen

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Oxygen

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Oxygen:  
Fire hazard, Sudden Release of Pressure, Delayed (Chronic) Health Hazard

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean air act (CAA) 112 accidental release prevention: No products were found.

Clean air act (CAA) 112 regulated flammable substances: No products were found.

Clean air act (CAA) 112 regulated toxic substances: No products were found.

Oxygen

Pennsylvania RTK: Oxygen: (generic environmental hazard)  
Massachusetts RTK: Oxygen  
New Jersey: Oxygen

Class A: Compressed gas.  
Class C: Oxidizing material.  
CEPA DSL: Oxygen

Section 16. Other information

OXIDIZER.  
CONTENTS UNDER PRESSURE.  
CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.

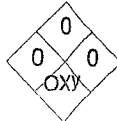
Class A: Compressed gas.  
Class C: Oxidizing material.

	0
	0
Reactivity	0
Personal protection	C

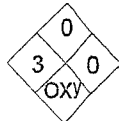
liquid:

	3
	0
Reactivity	0
Personal protection	

0  
OXYGEN



liquid:



To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MATERIAL SAFETY DATA SHEET

MSDS# A043

\*\*\*\*\* SECTION 1 - IDENTIFICATION \*\*\*\*\*

IDENTITY: B - L PAINTSTIK -- BLUE

MANUFACTURER LA-CO INDUSTRIES, INC/MARKAL COMPANY CHICAGO, IL, 60612
EMERGENCY TELEPHONE NO. 312-826-1700
INFORMATION TELEPHONE NO. 312-826-1700
DATE PREPARED 12/14/90
SUPERSEDES ISSUE DATE: 02/23/90

LABELING

HMIS: 010 NFPA: 110 WHMIS(CANADA): NONE
EPA HAZARDS: NONE D.O.T.:
BILL OF LADING: O.P.S.:

\*\*\*\*\* SECTION 2 - HAZARDOUS INGREDIENTS \*\*\*\*\*

INGREDIENT C.A.S.# OSHA PEL ACGIH TLV EQ SUPERFUND
NO INGREDIENTS CONSIDERED HAZARDOUS UNDER OSHA COMMUNICATION STANDARD
29 CFR 1910-1200.

PAINTSTIK TYPE B-L BLUE WAS TESTED BY AN INDEPENDENT LABORATORY AND FOUND TO BE NON-TOXIC, NON-IRRITATING TO THE SKIN AND EYES WITHIN THE MEANING OF THE FEDERAL HAZARDOUS SUBSTANCE ACT.

\*\*\*\*\* SECTION 3 - PHYSICAL / CHEMICAL CHARACTERISTICS \*\*\*\*\*

BOILING POINT: N.A. SPECIFIC GRAVITY(D20=1): N.A.
VAPOR PRESSURE(mmHg): N.A. MELTING POINT: N.A.
VAPOR DENSITY(AIR=1): N.A. EVAP. RATE(butyl acetate=1): N.A.
SOLUBILITY IN WATER: INSOLUBLE
APPEARANCE: SOLID MARKER ODOR: MILD ODOR

\*\*\*\*\* SECTION 4 - FIRE AND EXPLOSION HAZARD DATA \*\*\*\*\*

FLASH POINT (method used): 400 deg F. FLAMMABLE LIMITS - LEL: N.A. UEL: N.A.
EXTINGUISHING MEDIA: WATER, CARBON DIOXIDE, FOAM, DRY CHEMICAL
SPECIAL FIRE FIGHTING PROCEDURES: NONE
UNUSUAL FIRE AND EXPLOSION HAZARDS: N.A.

\*\*\*\*\* SECTION 5 - REACTIVITY DATA \*\*\*\*\*

STABILITY: STABLE
CONDITIONS TO AVOID: NONE
INCOMPATIBILITY (MATERIALS TO AVOID): OXIDIZERS
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON DIOXIDE IF BURNED
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
CONDITIONS TO AVOID: N.A.

\*\*\*\*\* SECTION 6 - HEALTH HAZARD DATA \*\*\*\*\*

ROUTES OF ENTRY: INHALATION? NO SKIN? NO INGESTION? NO
HEALTH HAZARDS: NONE
CARCINOGENICITY: NTP? NO IARC? NO OSHA? NO
SIGNS AND SYMPTOMS OF EXPOSURE: NONE
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE
EMERGENCY AND FIRST AID PROCEDURES: USE GOOD INDUSTRIAL HYGIENE AND WASH HANDS AFTER USE.

\*\*\*\*\* SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE \*\*\*\*\*

RELEASE AND SPILL PROCEDURES: SWEEP UP AND PLACE IN CONTAINER  
WASTE DISPOSAL METHOD: DISPOSE OF IN ACCORDANCE WITH LOCAL REGULATIONS.  
HANDLING AND STORAGE PRECAUTIONS: NONE  
OTHER PRECAUTIONS: N.A.

\*\*\*\*\* SECTION 8 - CONTROL MEASURES \*\*\*\*\*

RESPIRATORY PROTECTION: NONE  
VENTILATION / LOCAL EXHAUST: OK SPECIAL: N.A.  
MECHANICAL(GENERAL): NONE OTHER: N.A.  
PROTECTIVE GLOVES: NONE  
EYE PROTECTION: NONE  
OTHER PROTECTIVE EQUIPMENT: N.A.  
WORK/HYGIENIC PRACTICES: WASH AFTER USING.

N.A. = NOT APPLICABLE

N.D. = NOT DETERMINED

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

MSDS# A043 PRODUCT: B - L PAINTSTIK -- BLUE

P  
PAINTSTIK



# MATERIAL SAFETY DATA SHEET

## QUIK-ROK®

MSDS NO. 05347

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**AMERISTAR**

FENCE PRODUCTS  
P.O. BOX 581000  
Tulsa, Oklahoma 74158-1000

Product Safety: 1 (800) 507-8899

Version Date: March 12, 2001

Version 2

### SECTION I PRODUCT IDENTIFICATION

PRODUCT(S): HYDROSTONE® QR

CHEMICAL FAMILY: Calcium Sulfate Hemihydrate (Plaster of Paris,  $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ ) and Portland Cement

### SECTION II INGREDIENTS

MATERIAL	WT%	TLV (mg/m <sup>3</sup> )	PEL (mg/m <sup>3</sup> )	CAS NUMBER
Plaster of Paris	>90	10	15(T)/5(R)	26499-65-0
Portland Cement	<5	10	15(T)/5(R)	65997-15-1
Crystalline Silica	<5	0.1(R)	0.1(R)	14808-60-7

(T) – Total (R) – Respirable

All ingredients of this product are included in the U.S. Environmental Protection Agency's Toxic Substances Control Act Chemical Substance Inventory. All components of this product are included in the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).

### INFORMATION FOR HANDLING AND IDENTIFICATION OF CHEMICAL HAZARDS

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0 Other: N/A

HMIS Ratings: Health: 1 Fire: 0 Reactivity: 0

Personal Protection: Use eye and skin protection. Use NIOSH/MSHA-approved respiratory protection when necessary.

0 = Minimal Hazard 1 = Slight Hazard 2 = Moderate Hazard 3 = Serious Hazard 4 = Severe Hazard

### SECTION III PHYSICAL DATA

Appearance and Odor:	Black to dark gray powder, low to no odor.
Melting Point:	1450°C – decomposes
Solubility in Water:	0.15%
Specific Gravity (H <sub>2</sub> O=1):	2.7 – 3.0
pH:	12 – 13
Hardening Time:	Varies. Check usage and/or product specification data for each product.

### SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used):	Non-combustible.
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.
Special Fire Fighting Procedures:	None
Unusual Fire and Explosion Hazards:	None
Special Fire Fighting Protective Equipment:	None





# MATERIAL SAFETY DATA SHEET

## QUIK-ROK®

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### SECTION V HEALTH HAZARD DATA

Both portland cement and plaster of paris are considered nuisance dusts. This primary hazard with cement is its alkalinity (pH ~ 12).

This product can release nuisance dust in handling or during use. Eye, skin, nose, throat, and upper respiratory irritation may occur with prolonged dust exposures.

#### EFFECTS OF OVEREXPOSURE:

##### ACUTE:

**EYES:** Portland cement is a strongly alkaline material. Contact with eyes will cause irritation and possible corrosion damage, burning, and corneal edema. Can cause chemical burns to the eye and blindness. Exposure requires immediate First Aid (see First Aid procedures below) and medical attention to prevent significant damage to the eye.

Direct contact can also cause mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician.

**SKIN:** When mixed with water, this material hardens and becomes very hot – sometimes quickly. **DO NOT** attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions can cause severe burns that may require surgical removal of affected tissue or amputation of limb. Direct, prolonged or repeated contact with the skin can cause severe skin damage in the form of (caustic) chemical burns. Because of the high alkalinity of portland cement, burns may occur 12 to 48 hours after exposures of 1 to 6 hours. Burns may occur without obvious pain at the time of exposure. Can cause chemical and mechanical irritation to skin, especially in sensitive individuals. Rubbing of this product against the skin can result in abrasions. Rinse with water until free of material to avoid abrasions, then wash skin thoroughly with soap and water. May dry skin.

Some individuals may exhibit an allergic response upon exposure to blended cement, possibly due to trace amounts of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with the product. Other persons may experience this effect after years of contact with blended cement products.

**INHALATION:** Irritating and may be corrosive to respiratory tract. Inhalation of dusts from this product can irritate the nose, throat, lungs and upper respiratory tract. Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation from dust. Labored breathing may occur after excessive inhalation. Remove subject to fresh air. If respiratory symptoms persist (irritation, cough, nausea, dizziness, etc.), consult physician.

**INGESTION:** If ingested, caustic burns may occur in the mouth, esophagus or stomach. Portland cement may be corrosive to the digestive tract. Plaster of paris is non-toxic; however, ingestion of a sufficient quantity could lead to mechanical obstruction of the gut, especially the pyloric region. See Emergency and First Aid – Ingestion below.

##### CHRONIC:

**INHALATION:** Bronchitis and emphysema have been reported after many years of exposure to Portland cement. Chronic overexposure to respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer.

**EYES:** Conjunctivitis and keratitis.

**SKIN:** Dermatitis.

**INGESTION:** Burns to esophagus and stomach.

#### EMERGENCY AND FIRST AID PROCEDURES:

**EYES:** Immediately flush eyes thoroughly with water for 30 minutes, including under upper and lower lids. Get medical attention immediately. Contact lenses should NOT be worn when working with portland cement.

**SKIN:** Promptly wash skin thoroughly with copious amounts of water for at least 15 minutes or longer depending on the concentration, amount and duration of exposure. If irritation or pain persists after washing, contact physician. If cement penetrates the clothing, promptly remove the clothing and wash skin. Wash clothing before wearing again.

**INHALATION:** Remove to fresh air. Leave the area of dust exposure and remain away until coughing and other symptoms subside. Other measures are usually not necessary, however if conditions warrant, contact physician.

**INGESTION:** Get medical attention immediately. Portland cement is highly alkaline (pH ~12) and may cause burns to the esophagus and stomach. The use of diluents is controversial and neutralization is contraindicated. This product contains gypsum plaster. Plaster of paris hardens when wetted and, if ingested, may result in obstruction of the gut, especially the pyloric region.



# MATERIAL SAFETY DATA SHEET

## QUIK-ROK®

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**TARGET ORGANS:** Eyes, skin, and respiratory system.

**MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED:** Pre-existing upper respiratory and lung diseases such as, but not limited to, bronchitis, emphysema and asthma. Unusual (hyper) sensitivity to hexavalent chromium (chromium +6) salts.

**PRIMARY ROUTES OF ENTRY:** Inhalation: eyes and/or skin contact.

### CARCINOGENICITY OF INGREDIENTS:

MATERIAL	IARC	NTP
Crystalline Silica	Group 1	Known

The average concentration of respirable crystalline silica measured in USG plaster of paris was less than 0.1 Wt.%. In June 1997, the International Agency for Research on Cancer (IARC) classified crystalline silica (quartz and cristobalite) as a human carcinogen. In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.

IARC states that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

### SECTION VI REACTIVITY DATA

<b>STABILITY:</b>	Stable
<b>INCOMPATIBILITY:</b>	Acids, aluminum metal, and ammonium salts.
<b>HAZARDOUS POLYMERIZATION:</b>	Will not occur
<b>HAZARDOUS DECOMPOSITION:</b>	Above 1450°C could produce CaO and SO <sub>2</sub> .
<b>CONDITIONS TO AVOID:</b>	Contact with water before use.

### SECTION VII SPILL OR LEAK PROCEDURES

#### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Sweep up material from spillage into a waste container for disposal, avoid creating excessive dust. If washed down, may plug drains. If already mixed with water, scrape up and place in container. Avoid dusting conditions, minimize airborne dust. Wear appropriate protective equipment.

#### WASTE DISPOSAL METHOD:

Dispose of material in accordance with Federal, State and Local regulations. Slurry may plug drains.

### SECTION VIII SPECIAL PROTECTION INFORMATION

No TLV assigned to this mixture, see Ingredients Section. Minimize exposures in accordance with good hygiene practice.

#### RESPIRATORY PROTECTION:

Not typically necessary under normal conditions of use. Provide general ventilation and local exhaust ventilation to meet TLV requirements of individual ingredients and to control dusting conditions. Avoid creating dust. Wear a NIOSH/MSHA-approved dust respirator in poorly ventilated areas and/or if TLV is exceeded.

#### VENTILATION:

Ventilate to keep exposures below TLV. General ventilation is expected to be satisfactory. Use local exhaust ventilation if necessary to control dust.

QUIK-ROK



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### PERSONAL PROTECTIVE EQUIPMENT:

Gloves or protective clothing are usually not necessary but may be desirable in specific work situations. Wear gloves and protective clothing impervious to water to prevent repeated or prolonged skin contact. When required, wear boots impervious to water to protect feet and ankles. Wear eye protection (safety glasses or goggles) to avoid chemical and particulate irritation of the eye. Contact lenses should not be worn when working with blended cement products.

### SECTION IX SPECIAL PRECAUTIONS

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

During handling wear the appropriate respiratory, eye and skin protection if warranted per environmental conditions. Keep dry. Dew point conditions or other conditions causing presence of liquid will harden this material during storage.

### ⚠WARNING!

When mixed with water, this material hardens and becomes very hot – sometimes quickly. **DO NOT** attempt to make a cast enclosing any part of the body using this material. Failure to follow these instructions can cause severe burns that may require surgical removal of affected tissue or amputation of limb. Dust may cause eye, nose, throat, or respiratory irritation. Avoid dust inhalation and exposure to dust. If dusty, wear a NIOSH/MSHA-approved dust respirator. Use proper ventilation to reduce dust exposure. Portland cement is strongly alkaline and can be corrosive to eyes, skin, and respiratory tract. Wear proper eye and skin protection. If eye contact occurs, immediately flush thoroughly with water for 15 minutes and get medical attention. Do not ingest. If ingested, call physician. Product safety information: (800) 507-8899 or [www.usq.com](http://www.usq.com)

**KEEP OUT OF REACH OF CHILDREN.**

END

Q  
QUIK-ROK

	<h1 style="margin: 0;">RELTON</h1> <small>CORPORATION</small> 	<b>HMIS</b> <table border="1" style="margin: 0 auto; border-collapse: collapse;"> <tr><td style="padding: 2px;">Health</td><td style="padding: 2px; text-align: center;">1</td></tr> <tr><td style="padding: 2px;">Fire</td><td style="padding: 2px; text-align: center;">1</td></tr> <tr><td style="padding: 2px;">Reactivity</td><td style="padding: 2px; text-align: center;">1</td></tr> </table>	Health	1	Fire	1	Reactivity	1
Health	1							
Fire	1							
Reactivity	1							
<h2 style="margin: 0;">MATERIAL SAFETY DATA SHEET</h2> <p style="margin: 0; font-size: small;">Meets requirements of 29 CFR 1910.1200 (Federal Hazard Communication Standard)</p>								

**SECTION I**

<b>MANUFACTURER'S NAME:</b> RELTON CORPORATION 317 ROLYN PLACE ARCADIA, CA 91007-2838  <b>EMERGENCY RESPONSE</b> for spill, leak, exposure, etc: Chemtrec - (800) 424-9300  <b>For non-emergency product information:</b> Relton Corp - (323) 681-2551 (800) 423-1505	<b>PRODUCT NAME OR NUMBER:</b> NEW Rapid Tap®  <b>CHEMICAL NAME &amp; SYNONYMS:</b> Predominantly Chlorinated Paraffin  <b>CHEMICAL FAMILY:</b> Chlorinated Paraffin  <b>FORMULA:</b> Mixture (see Section II)
--	--

**SECTION II COMPONENTS**

	TLV	PEL	STEL	C.A.S. NO.	% wt.
Paraffin, chlorinated	NE	NE	NE	61788-76-9	< 40
Mineral Oil	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	NE	64742-58-1	< 50
Metal-Cutting-Fluid Additive	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	NE	Trade secret	< 8
Soybean Oil, epoxidized	NE	NE	NE	8013-07-8	> 1
Olefin Sulfide	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	NE	Trade secret	< 1
Cinnamon Oil Perfume	NE	NE	NE	--	trace

**SECTION III - PHYSICAL DATA**

Data is based upon testing mixture as a whole.

BOILING POINT ( X°F ) ( C° ): 450° F	SPECIFIC GRAVITY ( H <sub>2</sub> O=1 ) @ 25° C: 1.02	Freezing Point: -20° F
VAPOR PRESSURE ( mm Hg ): NF	PERCENT VOLATILE BY VOLUME ( % ): NA	VOC: Negligible
VAPOR DENSITY ( AIR=1 ): NF	EVAPORATION RATE ( WATER=1 ): Slower than water	
SOLUBILITY IN WATER: < .2%	pH: NA	
APPEARANCE AND ODOR: light amber color; slight, sweet odor		MATERIAL IS LIQUID

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

Data is based upon testing mixture as a whole.

FLASH POINT ( method used ): 350° F COC	FLAMMABLE LIMITS: Non-Flammable	LFL ND	UFL ND
EXTINGUISHING MEDIA: Carbon Dioxide, Foam, Dry Chemical, Water, Fog			
SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus with full facepiece in a pressure-demand mode; full-body protective clothing. Treat as oil fire			
UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustion can produce acid gases (hydrogen chloride, hydrogen sulfide) Exposing containers to intense heat could cause drums to rupture. Cool fire-exposed containers with water spray to prevent rupture			

**SECTION V - HEALTH HAZARD DATA**

<b>ROUTES OF ENTRY &amp; SYMPTOMS OF OVEREXPOSURE:</b> Eyes and skin: may cause mild irritation. Inhalation: may cause mild upper respiratory irritation. Ingestion: possible nausea.
<b>EMERGENCY AND FIRST AID PROCEDURES:</b> Eyes: flush for 15 min. with water. Skin: wash with soap and water. Inhalation: remove to fresh air. Ingestion: do not induce vomiting; give lots of water to a conscious person. Call Doctor

**SECTION VI - REACTIVITY DATA**

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Elevated temperatures produce decomposition
	STABLE	X	
INCOMPATIBILITY (materials to avoid): Strong oxidizing and reducing agents, strong alkalis. Iron and zinc catalyze deterioration			
HAZARDOUS DECOMPOSITION PRODUCT: Combustion can produce carbon-dioxide and monoxide, hydrogen chloride, incompletely burned hydrocarbon products, oxides of sulfur & nitrogen, aldehydes, & traces of hydrogen sulfide.			
HAZARDOUS	MAY OCCUR		CONDITIONS TO AVOID: NA
POLYMERIZATION:	WILL NOT OCCUR	X	

**SECTION VII - SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Clean up promptly by vacuum or absorbent material. Prevent discharge to streams or sewage systems; report if required.
WASTE DISPOSAL METHOD: Transport in DOT-approved container to EPA-approved treatment, storage, and disposal facility. Follow local, State & Federal disposal regulations.

**SECTION VIII - SPECIAL PROTECTION INFORMATION**

RESPIRATORY PROTECTION (specify type): Normally not needed. For oil-type mist, use NIOSH-listed respirator.		
VENTILATION: Local-mechanical	LOCAL EXHAUST (Specify Rate): Adequate to avoid fumes and oil mists	SPECIAL: Not required normally
	MECHANICAL (General) (Specify Rate):	OTHER:
PROTECTIVE GLOVES: Freshly washed cotton or rubber, nitrile	EYE PROTECTION: Chemical goggles or full faceshield	
OTHER PROTECTIVE EQUIPMENT: Clean clothes Apron or chemical suit where splashing may occur		

**SECTION IX - SPECIAL PRECAUTIONS**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a dry place. Vent vapors to open area if stored above 100°F. Don't store near food or in zinc or iron containers.
OTHER PRECAUTIONS: Chlorinated Paraffin will darken at elevated temperatures. Avoid mist and vapor; use with adequate ventilation & exhaust of work area.

**ADDITIONAL INFORMATION**

<b>DOT:</b> No hazardous substance No hazard class I# 155250 Class 65	UN or NA#: Not applicable Freight Classification: Chlorinated paraffin No DOT ID#
<b>SARA:</b> Not considered to be subject to Title III	
<b>TSCA:</b> All components required to be listed on the inventory are listed.	
<b>IARC-NTP-OSHA:</b> Neither the mixture nor any component is listed as a carcinogen or suspected carcinogen.	
<b>Ozone-Depleting Substance:</b> No 1,1,1-Trichloroethane (methyl chloroform) or other ozone-depleting substance No 5/15/93 labeling required	
<b>California Prop. 65 Material:</b> None	
<b>Note:</b> Although no exposure limits are established, observe ACGIH-OSHA TWA for oil mists: 5Mg/meter <sup>3</sup> . Use with adequate local ventilation and exhaust devices.	

R  
RAPID



317 ROLYN PLACE, ARCADIA, CALIFORNIA 91007-2838  
Phone: (323) 681-2551 (800) 423-1505  
Emerg: Chemtrec - (800) 424-9300

Prepared: 2/24/93 Updated: 11/07/94  
Updated: 3/04/93 Updated: 11/04/96  
Updated: 7/15/93 Updated: 07/25/97  
Updated: 02/29/00 Updated: 04/01/08

*Robert E. Pratt*

by Dr. Robert E. Pratt,  
consulting chemist

M A T E R I A L   S A F E T Y   D A T A   S H E E T

STRUCTURAL SHOP COAT RED OXIDE PRIMER  
DATE PRINTED: 2/7/2008

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PRODUCT NAME: STRUCTURAL SHOP COAT RED OXIDE PRIMER  
PRODUCT CODE: 100R0984

HMS CODES: H F R P  
2\*3 0 X

SECTION I - MANUFACTURER IDENTIFICATION

MANUFACTURER'S NAME: Sumter Coatings  
ADDRESS : 2410 Highway 15 South  
Sumter, SC 29154  
EMERGENCY PHONE : 800-255-3924 CHEMTEL  
INFORMATION PHONE : 803-481-3400

SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION

REPORTABLE COMPONENTS	CATEGORY CODE/ CAS NUMBER	VAPOR PRESSURE		WEIGHT PERCENT
		mm Hg @	TEMP	
ALIPHATIC PETROLEUM DISTILLATES	64742-89-8	10.2	20C	17
OSHA VPEL 300ppm TWA				
OSHA VPEL 400ppm STEL				
TLV 300ppm TWA				
MICROCRYSTALLINE SILICA	14808-60-7			.6
OSHA-TWA (10.0 mg/m <sup>3</sup> ) / % SILICA + 2 (RESPIRABLE)				
TLV -TWA 0.05 mg/m <sup>3</sup> (RESPIRABLE FRACTION)				
MICROCRYSTALLINE SILICA	14808-60-7			.2
OSHA-PEL 10.0 mg/m <sup>3</sup> (RESPIRABLE)				
TLV -TWA 0.05 mg/m <sup>3</sup> (RESPIRABLE FRACTION)				

MFR = Manufacturer Recommended Exposure Limit  
PEL = Permissible Exposure Limit  
STEL = Short Term Exposure Limit  
C = Ceiling; Allowable Exposure Level Should Not Be Exceeded For Any Time Period  
SKIN = Skin Absorption Must Be Considered As A Route Of Exposure  
TWA = Time Weighted Average

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: 240F(115C)  
VOLATILE BY VOLUME: 51.68%  
VAPOR DENSITY: Heavier than air  
VOC (LESS WATER AND EXEMPT SOLVENTS;calc) : 3.23 lb/gl  
SPECIFIC GRAVITY (H<sub>2</sub>O=1): 1.3129  
NONVOLATILE BY WEIGHT: 70.459  
EVAPORATION RATE: Slower than diethyl ether.  
MATERIAL VOC (calc) : 3.23 lb/gl

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 50F(10C)  
FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: 0.94  
EXTINGUISHING MEDIA: Use NFPA Class B fire extinguishers (carbon dioxide, all purpose dry chemical or alcohol foam) desi  
to extinguish flammable liquid fires. Polymer foam is preferred for large fires.  
METHOD USED: TCC  
UPPER: 7.0%

RED OXIDE

SPECIAL FIREFIGHTING PROCEDURES

Water may be ineffective, but may be used to cool exposed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable.

UNUSUAL FIRE AND EXPLOSION HAZARDS

During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SECTION V - REACTIVITY DATA

STABILITY: Stable  
CONDITIONS TO AVOID  
Excessive heat and ignition sources such as sparks and flames.  
INCOMPATIBILITY (MATERIALS TO AVOID)  
Strong oxidizing agents.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

Burning, including welding/cutting, may produce smoke, carbon Monoxide and Carbon Dioxide.

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HAZARDOUS POLYMERIZATION: Will not occur.

===== SECTION VI - HEALTH HAZARD DATA =====

**INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

INHALATION: May cause irritation of the respiratory tract. High concentrations may cause acute central nervous system depression characterized by headaches, dizziness, nausea and confusion.  
Breathing Silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring.  
Inhalation of dust may have serious chronic health effects.

**SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

EYE CONTACT: Liquid, vapor or spray mist may cause severe eye irritation, experienced as stinging, swelling, tear production, redness and eye damage.  
SKIN CONTACT: Exposure may cause skin irritation. Prolonged or repeated exposure may dry the skin, experienced as redness, burning and cracking.

**SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

SKIN ABSORPTION: No evidence of harmful effects from available information.

**INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE**

INGESTION: Swallowing small amounts during normal handling is not likely to cause harmful effects; swallowing large amounts may cause gastrointestinal irritation, nausea and vomiting and may be harmful. This material can enter the lungs during swallowing or vomiting and cause chemical pneumonitis which can be fatal.

**HEALTH HAZARDS (CHRONIC)**

Excessive inhalation of respirable silica dust may cause a progressive, disabling and sometimes fatal lung disease called Silicosis. Individuals with silicosis are predisposed to develop tuberculosis.  
Reports have associated prolonged and repeated occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

CARCINOGENICITY: NTP CARCINOGEN: Yes

IARC MONOGRAPHS: Yes

OSHA REGULATED: No

The International Agency for Research on Cancer has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group I - carcinogenic to humans). IARC Monograph 68, Silica, "Some Silicates and Organic Fibres", June 1997.

The National Toxicology Program, 9th report on carcinogens 2000, classifies Respirable Crystalline Silica (RCA) as "Known to be a human carcinogen, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust".

NIOSH has recommended that Occupational Safety and Health Administration (OSHA) and Mine Safety and Health Administration (MSHA) adopt the NIOSH Recommended Exposure Level (NIOSH PEL) of 0.05 m/m3 as the OSHA PEL and the MSHA Exposure limit.

R  
RED OXIDE

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**

Individuals with pre-existing respiratory diseases or subject to eye irritation should not be exposed to Crystalline Silica dust or spray mist; excessive inhalation is harmful to the lungs, particularly in people who smoke.  
Overexposure to Aliphatic Petroleum Distillates may aggravate pre-existing disorders of the skin.  
Inhalation of high concentrations of Aliphatic Petroleum Distillates may be associated with cardiac arrhythmias.

**EMERGENCY AND FIRST AID PROCEDURES**

INHALATION: Remove to fresh air immediately. If breathing has stopped, give artificial respiration. Keep warm and quiet. Get medical attention immediately.  
EYE CONTACT: Immediately flush with large amounts of water, lifting upper and lower eyelids occasionally to remove contamination. Continue for at least 15 minutes. Get immediate medical attention.  
SKIN CONTACT: Remove contaminated clothing and wash contaminated skin with soap and water. If irritation persists, get medical attention. Launder clothing before reuse.  
INGESTION: If swallowed, do not induce vomiting. Call Poison Control Center, Hospital Emergency Room or Physician immediately. Never give anything by mouth to an unconscious person.  
TIPS TO PHYSICIAN: Any treatment that might be required for overexposure should be directed at the control of symptoms and the clinical conditions.

===== SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE =====

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STRUCTURAL SHOP COAT RED OXIDE PRIMER

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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Keep spectators away. Wear respirators, eye, hand and body protection appropriate for the size of the spill and the exposures encountered. Eliminate all ignition sources (flames, hot surfaces and sources of electrical, static or frictional sparks). Dike and contain spill with inert material (e.g. sand, earth). Transfer liquids to covered metal containers for recovery or disposal or remove with inert absorbent. Use only non-sparking tools. Place absorbent and diking materials in covered metal containers for disposal. Prevent contamination of sewers, streams and groundwater with spilled material or used absorbent.

**WASTE DISPOSAL METHOD**

Dispose in accordance with federal, state and local regulations.

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Keep away from heat, sparks and open flame. Avoid prolonged or repeated skin contact. Do not swallow. Avoid contact with eyes. Do not store above 115F(46C). Store large quantities in compliance with OSHA 29 CFR 1910.106.

**OTHER PRECAUTIONS**

Do not take internally. Smoking in area where this material is used should not be allowed. Use non-sparking utensils when handling. Close container after each use. Do not weld, braze or cut an empty container. Empty container must not be washed and reused for any purpose. Use only with adequate ventilation or with proper respiratory protection.

**SECTION VIII - CONTROL MEASURES****RESPIRATORY PROTECTION**

Proper selection of respiratory protection depends upon many factors including duration/level of exposure and conditions of use. In general, exposure to organic chemicals, such as those contained in this product, may not require the use of respiratory protection if used in well ventilated areas. In restricted ventilation areas, a NIOSH approved chemical cartridge respirator may be required. Under certain conditions, such as spraying, a mechanical prefilter may also be required. In confined areas use a NIOSH/OSHA approved air supplied respirator. If the exposure limits listed in Section II are exceeded, use a properly fitted NIOSH/OSHA approved respirator with an appropriate protection factor. Refer to OSHA 29 CFR 1910.134 "Respiratory Protection" and "Respiratory Protection: A Manual and Guideline", American Industrial Hygiene Association.

**VENTILATION**

Provide general dilution and local exhaust ventilation in sufficient volume and pattern to keep concentrations of hazardous ingredients (listed in Section II) below the lowest exposure limit stated. Remove decomposition products that are generated when welding, cutting or brazing objects coated with this product. Refer to "Industrial Ventilation--A Manual of Recommended Practice", ACGIH.

**PROTECTIVE GLOVES**

Solvent impermeable gloves are required for repeated or prolonged contact.

**EYE PROTECTION**

Wear safety glasses meeting the specifications of ANSI Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specifications of ANSI Z87.1 should be worn whenever there is a possibility of splashing or other contact with the eyes.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT**

Use impermeable aprons and protective clothing whenever possible to prevent skin contact. The use of head caps is recommended.

**WORK/HYGIENIC PRACTICES**

Avoid breathing dust from sanding, vapors or spray mist.  
Wash hands after using and before smoking or eating.

**SECTION IX - DISCLAIMER**

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. WHILE THE INFORMATION IS BELIEVED TO BE RELIABLE, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SINCE THE USE OF THIS INFORMATION AND THE CONDITIONS AND USE OF THIS PRODUCT ARE CONTROLLED BY THE USER, IT IS THE USER'S OBLIGATION TO DETERMINE THE CONDITIONS OF SAFE USE OF THE PRODUCT.

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RED OXIDE



M A T E R I A L   S A F E T Y   D A T A   S H E E T

STRUCTURAL SHOP COAT RED OXIDE PRIMER

DATE PRINTED: 2/7/2008

The Sumter Coatings, Inc., Safety and Environmental Affairs Department is responsible for the preparation of this Material Safety Data Sheet.

    R      
RED OXIDE

Printing date 01/02/2008

Reviewed on 01/02/2008

**1 Identification of substance**

**Trade name:** SPRUCE RED OXIDE PRIMER - *SPRAY*  
**Product code:** 0000980026  
**Manufacturer/Supplier:** SEYMOUR OF SYCAMORE  
 917 Crosby Avenue  
 Sycamore, IL 60178  
 (815)-895-9101, www.seymourpaint.com



**Information department:** Health & Safety Department  
**Emergency information:** CHEMTEL 1-800-255-3924, 813-248-0585 if located outside the U.S.

**2 Composition/Data on components**

**Chemical Description:** This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	
74-98-6	propane	25.11%
106-97-8	n-butane	13.87%
108-88-3	Toluene	8.15%
64742-89-8	VM&P Naptha	6.57%
1309-37-1	red iron oxide pigment	6.17%
64-17-5	ethyl alcohol	4.41%
1330-20-7	xylene (mix)	4.12%
14807-96-6	Talc (Mg <sub>3</sub> H <sub>2</sub> (SiO <sub>3</sub> ) <sub>4</sub> )	3.63%
123-86-4	n-butyl acetate	3.38%
64742-47-8	Mineral Spirits	3.37%
110-19-0	isobutyl acetate	1.93%
108-65-6	PM acetate	1.68%
		1.03%

**Additional information:** For the wording of the listed risk phrases refer to section 3.

**3 Hazards identification**

**Hazard description:**   Harmful  
Extremely flammable

**Physical dangers:** Extremely flammable.  
 Irritating to eyes and respiratory system.  
 Possible risk of harm to the unborn child  
 Keep out of the reach of children.

**Effects of short-term overexposure:** Vapors cause irritation to the eyes, nose, throat, skin, and central nervous system. Symptoms may include dizziness, throat irritation, headache, fatigue, swelling of eyes, and nausea. R

**Effects of chronic overexposure:** May cause permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart, and blood. Intentional misuse by deliberately inhaling the contents may be harmful or fatal. RED SPRAY

**NFPA ratings (scale 0 - 4):** Health = 1  
 Fire = 4  
 Reactivity = 3

**HMIS-ratings (scale 0 - 4):** Health = 1  
 Fire = 4  
 Physical Hazard = 3

**4 First aid measures**

**After inhalation:** Supply fresh air; consult doctor in case of complaints.  
**After skin contact:** Remove contaminated clothing. Wash exposed area with soap and water.  
**After eye contact:** Move to fresh air. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.  
**After swallowing:** Contact physician or poison control center.

**5 Fire fighting measures**

**Extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder, or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 01/02/2008

Reviewed on 01/02/2008

**Trade name:** SPRUCE RED OXIDE PRIMER

**Protective equipment:** No special measures required.

(Contd. of page 1)

**6 Accidental release measures**

**Personal safety**

**precautions:** Wear protective equipment. Keep unprotected persons away.

**Environmental safety**

**precautions:** Inform appropriate authorities in case of seepage into water course or sewage system.  
Do not allow product to reach sewage systems or ground water.

**Measures for cleaning/  
collecting:**

Do not flush with water or aqueous cleansing agents. Use diluted caustic solution. Soak up spills with inert absorbent material. Refer to section 13 for disposal information.

**7 Handling and storage**

**Fire/explosion protection:** Do not spray on a naked flame or any incandescent material.  
Do not smoke. Protect from electrostatic charges.

**Storage requirements:** Observe pressurized container storage regulations. Consult with your local authorities.  
Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.

**8 Exposure controls and personal protection:**

**Components with limit values that require monitoring at the workplace:**

**67-64-1 Acetone**

PEL	2400 mg/m <sup>3</sup> , 1000 ppm
REL	590 mg/m <sup>3</sup> , 250 ppm
TLV	Short-term value: 1782 mg/m <sup>3</sup> , 750 ppm Long-term value: 1188 mg/m <sup>3</sup> , 500 ppm
	BEI

**106-97-8 n-butane**

REL 1900 mg/m<sup>3</sup>, 800 ppm

**108-88-3 Toluene**

PEL	Short-term value: C 300; 500* ppm Long-term value: 200 ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m <sup>3</sup> , 150 ppm Long-term value: 375 mg/m <sup>3</sup> , 100 ppm
TLV	(188) NIC-75 mg/m <sup>3</sup> , 20 ppm (Skin); (BEI)

**64-17-5 ethyl alcohol**

PEL	1900 mg/m <sup>3</sup> , 1000 ppm
REL	1900 mg/m <sup>3</sup> , 1000 ppm
TLV	1880 mg/m <sup>3</sup> , 1000 ppm

**1330-20-7 xylene (mix)**

PEL	435 mg/m <sup>3</sup> , 100 ppm
REL	Short-term value: 655 mg/m <sup>3</sup> , 150 ppm Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
TLV	Short-term value: 651 mg/m <sup>3</sup> , 150 ppm Long-term value: 434 mg/m <sup>3</sup> , 100 ppm
	BEI

**123-86-4 n-butyl acetate**

PEL	710 mg/m <sup>3</sup> , 150 ppm
REL	Short-term value: 950 mg/m <sup>3</sup> , 200 ppm Long-term value: 710 mg/m <sup>3</sup> , 150 ppm
TLV	Short-term value: 950 mg/m <sup>3</sup> , 200 ppm Long-term value: 713 mg/m <sup>3</sup> , 150 ppm

**110-19-0 isobutyl acetate**

PEL	700 mg/m <sup>3</sup> , 150 ppm
REL	700 mg/m <sup>3</sup> , 150 ppm
TLV	713 mg/m <sup>3</sup> , 150 ppm

**108-65-6 PM acetate**

WEEL 50 ppm

**Protective hygienic**

**measures:** Keep away from foodstuffs and animal feed. Wash hands after use.

(Contd. on page 3)

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~~RED SPRAY~~

**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 01/02/2008

Reviewed on 01/02/2008

**Trade name: SPRUCE RED OXIDE PRIMER**

**Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation. (Contd. of page 2)  
A respirator is generally not necessary when using this product outdoors or in large open areas. In cases of inadequate ventilation, a respiratory protective device should be worn to prevent overexposure.

**Protection of hands:** Protective gloves. The glove material has to be impermeable and resistant to the substance. No glove recommendation can be given.

**Eye protection:** Tightly sealed goggles

**9 Physical and chemical properties:**

**General Information:**

<b>Form:</b>	Aerosol
<b>Color:</b>	According to trade name description in section 1.
<b>Odor:</b>	Solvent
<b>Boiling point/Boiling range:</b>	-44°C (-47°F)
<b>Flash point:</b>	-19°C (-2°F)
<b>Ignition temperature:</b>	365°C (689°F)
<b>Auto igniting:</b>	Product is not self-igniting.
<b>Danger of explosion:</b>	Stable at normal temperatures. Can may burst when exposed to temperatures exceeding 120 degrees fahrenheit. In use, may form flammable/explosive vapour-air mixture.
<b>Lower Explosion Limit:</b>	1.7 Vol %
<b>Upper Explosion Limit:</b>	10.9 Vol %
<b>Vapor Pressure:</b>	~40 PSI, 2750 hPa
<b>Density at 20°C (68°F):</b>	0.812 g/cm <sup>3</sup>
<b>Specific Gravity:</b>	Between 0.77 and 0.85 (Water equals 1.00)
<b>VOC content:</b>	578.3 g/l / 4.83 lb/gl
<b>VOC content (less exempt solvents):</b>	52.8 %
<b>MIR Value:</b>	1.14
<b>Solids content:</b>	21.8 %

**10 Stability and reactivity:**

**Conditions to be avoided:** Do not allow the can to exceed 120 degrees Fahrenheit. Stable at normal temperatures.

**Possibility of Hazardous Reactions:** No dangerous reactions known.

**11 Toxicological information:**

**Primary effect on the skin:** No irritant effect.

**Primary effect on the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:** Harmful

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RED SPRAY

**12 Ecological information**

**Other information:** This product does not contain any chloroflourocarbons (CFC's),chlorinated solvents, lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), or polybrominated diphenyl ether (PDBE). No specific ecological data is available for this product.

**Acquatic toxicity:** Hazardous for water, do not empty into drains.

**13 Disposal considerations**

**DISPOSAL METHOD:** Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.

**Recommendation:** Empty cans should be recycled.

**14 Transport information:**

**Hazard class:** 2.1

**Identification number:** N/A

**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 01/02/2008

Reviewed on 01/02/2008

**Trade name: SPRUCE RED OXIDE PRIMER**

(Contd. of page 3)

**Label** 2.1  
**ADR/RID class:** 2 5F Gases  
**UN-Number:** 1950  
**IMDG Class:** 2.1  
**Packaging group:** II  
**EMS Number:** F-D,S-U  
**Marine pollutant:** No  
**ICAO/IATA Class:** 2.1  
**Propper shipping name:** Aerosols, Flammable  
 Consumer Commodity ORM-D

**15 Regulations**

**SARA Section 355 (extremely hazardous substances):**

None of the ingredients in this product are listed.

**SARA Section 313 (Specific toxic chemical listings):**

1330-20-7 xylene (mix)

**TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**PROPOSITION 65 Chemicals known to cause cancer:**

100-41-4 ethyl benzene

**PROPOSITION 65**

**Chemicals known to cause developmental toxicity:**

108-88-3 Toluene

**Canadian WHMIS:**

Class A, B5---Flammable Aerosols

**EPA:**

A= Known human carcinogen

B= Probable human carcinogen

C= Possible human carcinogen

D= Not classifiable as to human carcinogenicity: Inadequate human and animal evidence of carcinogenicity (or no data is available).

1330-20-7 xylene (mix)

110-19-0 isobutyl acetate

D

**IARC:**

Group 2B: The ingredient is possibly carcinogenic to humans. There is limited evidence of carcinogenicity.

Group 3: The ingredient is unclassifiable as to its carcinogenicity to humans.

1309-37-1 red iron oxide pigment

1330-20-7 xylene (mix)

3

14807-96-6 Talc (Mg3H2(SiO3)4)

3

**ACGIH TLVs:**

A1-designates a confirmed human carcinogen.

A2-designates a suspected human carcinogen.

A3-designates an animal carcinogen.

A4-designates "not classifiable as a human carcinogen".

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1309-37-1 red iron oxide pigment

64-17-5 ethyl alcohol

A4

1330-20-7 xylene (mix)

A4

110-19-0 isobutyl acetate

A4

**NIOSH:**

None of the ingredients is listed.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Contact:** Regulatory Affairs

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MATERIAL SAFETY DATA SHEET

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER	DATE OF PREPARATION	HMIS CODES
S00739	08-APR-08	Health 2* Flammability 3 Reactivity 1

PRODUCT NAME  
SPRAYON® SILVER GALV Galvanizing Compound

MANUFACTURER'S NAME  
THE SHERWIN-WILLIAMS COMPANY  
Consumer Group - Industrial  
Cleveland, OH 44115

TELEPHONE NUMBERS and WEBSITES

Product Information  
(800) 251-2486

Regulatory Information  
(216) 566-2902

Medical Emergency  
(216) 566-2917

Transportation Emergency  
(800) 424-9300

www.paintdocs.com

for Chemical Emergency ONLY (spill, leak,  
fire, exposure, or accident)

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT	UNITS	VAPOR PRESSURE
13	74-98-6	Propane		
		ACGIH TLV	2500 ppm	
		OSHA PEL	1000 ppm	760 mm
12	106-97-8	Butane		
		ACGIH TLV	800 ppm	
		OSHA PEL	800 ppm	760 mm
3	64742-89-8	Lt. Aliphatic Hydrocarbon Solvent		
		ACGIH TLV	100 ppm	
		OSHA PEL	100 ppm	53 mm
6	64742-89-8	V. M. & P. Naphtha		
		ACGIH TLV	300 ppm	
		OSHA PEL	300 ppm	12 mm
		OSHA PEL	400 ppm STEL	
2	64742-88-7	Mineral Spirits		
		ACGIH TLV	100 ppm	
		OSHA PEL	100 ppm	2 mm
1	100-41-4	Ethylbenzene		
		ACGIH TLV	100 ppm	
		ACGIH TLV	125 ppm STEL	7.1 mm
		OSHA PEL	100 ppm	
		OSHA PEL	125 ppm STEL	

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2 mm

6	1330-20-7	Xylene	ACGIH TLV	100	ppm	
			ACGIH TLV	150	ppm	5.9 mm STEL
			OSHA PEL	100	ppm	
			OSHA PEL	150	ppm	STEL
1	108-67-8	1,3,5-Trimethylbenzene	ACGIH TLV	25	ppm	
			OSHA PEL	25	ppm	2 mm
2	95-63-6	1,2,4-Trimethylbenzene	ACGIH TLV	25	ppm	
			OSHA PEL	25	ppm	2.03 mm
24	67-64-1	Acetone	ACGIH TLV	500	ppm	
			ACGIH TLV	750	ppm	180 mm STEL
			OSHA PEL	1000	ppm	
18	7440-66-6	Zinc	ACGIH TLV	Not Available		
			OSHA PEL	Not Available		

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### Section 3 -- HAZARDS IDENTIFICATION

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#### ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

#### EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to solvent ingredients in Section 2 may cause adverse effects to the liver, urinary and reproductive systems.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

#### CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

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### Section 4 -- FIRST AID MEASURES

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EYES: Flush eyes with large amounts of water for 15 minutes.  
Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

INHALATION: Remove contaminated clothing and launder before re-use.  
If affected, remove from exposure. Restore breathing.

INGESTION: Keep warm and quiet.  
Do not induce vomiting.  
Get medical attention immediately.

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 Section 5 -- FIRE FIGHTING MEASURES
 

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FLASH POINT	LEL	UEL
Propellant < 0 F	0.9	12.8

## EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

## UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

## SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

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 Section 6 -- ACCIDENTAL RELEASE MEASURES
 

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## STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

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 Section 7 -- HANDLING AND STORAGE
 

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## STORAGE CATEGORY

Not Available

## PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

---

 Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION
 

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## PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section 2) which may be present at hazardous levels only during sanding or abrading of the dried film. If no specific dusts are listed in Section 2, the applicable limits for nuisance dusts are ACGIH TLV 10 mg/m<sup>3</sup> (total dust), 3 mg/m<sup>3</sup> (respirable fraction), OSHA PEL 15 mg/m<sup>3</sup> (total dust), 5 mg/m<sup>3</sup> (respirable fraction).

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**VENTILATION**

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

**RESPIRATORY PROTECTION**

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.

**PROTECTIVE GLOVES**

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

**EYE PROTECTION**

Wear safety spectacles with unperforated sideshields.

**OTHER PRECAUTIONS**

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

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**Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES**


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PRODUCT WEIGHT	7.20 lb/gal	862 g/l
SPECIFIC GRAVITY	0.87	
BOILING POINT	<0 - 395 F	<-18 - 201 C
MELTING POINT	Not Available	
VOLATILE VOLUME	92 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
Volatile Weight	48.63%	Less Water and Federally Exempt Solvents

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**Section 10 -- STABILITY AND REACTIVITY**


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**STABILITY** -- Stable

**CONDITIONS TO AVOID**

None known.

**INCOMPATIBILITY**

None known.

**HAZARDOUS DECOMPOSITION PRODUCTS**

By fire: Carbon Dioxide, Carbon Monoxide

**HAZARDOUS POLYMERIZATION**

Will not occur

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## Section 11 -- TOXICOLOGICAL INFORMATION

## CHRONIC HEALTH HAZARDS

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

## TOXICOLOGY DATA

CAS No.	Ingredient Name				
74-98-6	Propane	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
106-97-8	Butane	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
64742-89-8	Lt. Aliphatic Hydrocarbon Solvent	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
64742-89-8	V. M. & P. Naphtha	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
64742-88-7	Mineral Spirits	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
100-41-4	Ethylbenzene	LC50	RAT	4HR	Not Available
		LD50	RAT		3500 mg/kg
1330-20-7	Xylene	LC50	RAT	4HR	5000 ppm
		LD50	RAT		4300 mg/kg
108-67-8	1,3,5-Trimethylbenzene	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
95-63-6	1,2,4-Trimethylbenzene	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
67-64-1	Acetone	LC50	RAT	4HR	Not Available
		LD50	RAT		5800 mg/kg
7440-66-6	Zinc	LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available

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## Section 12 -- ECOLOGICAL INFORMATION

## ECOTOXICOLOGICAL INFORMATION

No data available.

Continued on page 6

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 Section 13 -- DISPOSAL CONSIDERATIONS
 

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## WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

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## Section 14 -- TRANSPORT INFORMATION

## US Ground (DOT)

May be classed as Consumer Commodity, ORM-D  
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

## Canada (TDG)

May be classed as Consumer Commodity, ORM-D  
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

## IMO

May be shipped as Limited Quantity  
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, Ems F-D, S-U

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## Section 15 -- REGULATORY INFORMATION

## SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
100-41-4	Ethylbenzene	1	
1330-20-7	Xylene	6	
95-63-6	1,2,4-Trimethylbenzene	2	
7440-66-6	Zinc	18	
	Zinc		18

## CALIFORNIA PROPOSITION 65

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

## TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

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## Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria <sup>S</sup> of the Canadian Controlled Products Regulations (CPR) and the MSDS contains ~~SILVER~~ all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.



400 Chisholm Place, Suite 418  
Plano, Texas 75075

Telephone: (469)241-0950 Telecopier: (469)241-0956

**MATERIAL SAFETY DATA SHEET**

**EMERGENCY OVERVIEW**  
This slippery liquid has a mild odor. No significant immediate hazards for emergency response are known.

**NFPA RATING:** HEALTH: 0 FLAMMABILITY: 1 REACTIVITY: 0  
**HMIS RATING:** HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 0

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

GENERIC NAME: LUBRICATING OIL

ISSUE DATE: November 22, 2006

THIS LUBRICANTS USA PRODUCT IS:

**SOLUBLE OIL XD**

CAS NUMBER:

Mixture

SYNONYMS / GENERAL NAMES:

Metalworking oil, cutting oil

24 HOUR EMERGENCY TELEPHONE:

(CHEMTREC) 1-800-424-9300

TECHNICAL INFORMATION:

1-800-442-5823

**2. COMPOSITION / INFORMATION ON INGREDIENTS / HAZARDOUS INGREDIENTS**

COMPONENTS	CAS NO.	%	HAZARD DATA
1) Highly-refined paraffinic petroleum oils *	64741-89-5	>85	*
2) Petroleum additives	64741-88-4		
	Mixture	<15	

\* Not limited to but include these CAS numbers. Hazard data on this petroleum oil is Oral LD 50 >5000, Dermal LD 50 >2000

HAZARDOUS INGREDIENTS: NONE

HAZARDOUS PER 29 CFR 1916.1200: NO

**3. HAZARDOUS IDENTIFICATION**

ROUTES OF ENTRY:	Skin contact or ingestion
TARGET ORGANS:	Skin, mouth, throat and stomach
IRRITANCY:	This product can cause mild, transient, eye irritation with short-term contact with liquids or sprays. May be irritating to mouth, throat and stomach if ingested.
REPRODUCTIVE EFFECTS:	N/A
CANCER INFORMATION:	This product does not contain any components at concentrations above 0.1% that are considered carcinogenic by OSHA, IARC, or NTP.

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**4. FIRST AID MEASURES**

EYES:	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness or pain persists.
DERMAL:	Remove contaminated shoes and clothing, wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated

	leather goods.
<b>INGESTION:</b>	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Symptoms may include pain, nausea, vomiting and diarrhea. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
<b>INHALATION:</b>	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, a qualified individual should administer 100 percent humidified oxygen. Seek medical attention immediately. Keep the affected individual warm and at rest.
<b>INJECTION:</b>	Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.

**5. FIRE FIGHTING MEASURES**

**FLASH POINT, °C (°F):** >196°C (385°F)  
**FLAMMABLE LIMITS (% BY VOLUME):** LOWER: NO DATA UPPER: NO DATA  
**EXTINGUISHING MEDIA:** Use dry chemical, foam, carbon dioxide or water fog.  
**SPECIAL FIRE FIGHTING PROCEDURES:** N/A  
**AUTOIGNITION TEMPERATURE:** N/A  
**EXPLOSION DATA:** N/A  
**NFPA RATING:** HEALTH: 0 FLAMMABILITY: 1 REACTIVITY 0

**6. ACCIDENTAL RELEASE MEASURES**

**SPILL PROCEDURES:** Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard—do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spills as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulations.

**Ecotoxicity** Ecological effects testing has not been conducted on this material. Short-term degradation products are unlikely to be hazardous. Discharges are expected to cause only localized and non-persistent environmental damage.

**Environmental fate** An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products. This petroleum-based (mineral) lube oil will mix with water to form a milky emulsion. In stagnant or slow-flowing waterways, an oil layer will slowly separate which can cover a large surface area.

**7. HANDLING AND STORAGE**

**HANDLING & STORAGE PROCEDURES:** Avoid water contamination and extreme temperatures to minimize product degradation. Keep container closed. Do not store with strong oxidizing agents. Do not store at temperatures above 120°F or in direct sunlight for extended periods of time.

Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>ENGINEERING CONTROLS:</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentration of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the workstation.
<b>GLOVES PROTECTION:</b>	Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat protective gloves when handling product at elevated temperatures.
<b>EYE PROTECTION:</b>	Safety glasses equipped with side shields should be adequate protection under most conditions of use. Wear goggles and/or face shield if splashing or spraying is likely, especially if material is heated above 125° F (or 51° C). Have suitable eye wash water available.
<b>RESPIRATORY PROTECTION:</b>	Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
<b>CLOTHING RECOMMENDATION:</b>	Avoid prolonged and/or repeated skin contact, especially after this product has been used. If splashing or spraying is expected chemical-resistant (Tyvek®, nitrile or neoprene) clothing should be worn. This might include long-sleeves, apron, slicker suit, boots and additional facial protection. If general contact occurs, promptly remove soaked clothing and take a shower.
<b>OTHER COMMENTS:</b>	Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since standards/control limits have not been established for this product, the exposure limits shown below are suggested as minimum control guidelines.
<b>Occupational exposure guidelines for highly-refined petroleum lubricant oils</b>	Applicable workplace exposure levels TWA: 5 STEL; 10 (mg/M <sup>3</sup> ) from ACGIH (TLV) TWA: 5 (mg/ M <sup>3</sup> ) from OSHA (PEL) TWA: 5 STEL; 10 (mg/ M <sup>3</sup> ) from NIOSH

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Amber liquid
<b>ODOR:</b>	Mild petroleum odor
<b>pH:</b>	N/A
<b>VAPOR PRESSURE, mm Hg (25°C):</b>	<0.0001
<b>VAPOR DENSITY:</b>	>1 (Air =1)
<b>MELTING POINT:</b>	Not available
<b>BOILING POINT, 760 mm Hg, °C:</b>	Not available
<b>SOLUBILITY IN WATER:</b>	Emulsifies in cold water.
<b>SPECIFIC GRAVITY:</b>	0.93 (Water = 1)
<b>EVAPORATION RATE:</b>	N/A
<b>VISCOSITY 40°C (100°C)</b>	37 cSt @ 40 C
<b>MOLECULAR WEIGHT:</b>	N/A
<b>PERCENT VOLATILE:</b>	Negligible volatility

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### 10. STABILITY AND REACTIVITY

<b>STABILITY:</b>	Stable
<b>INCOMPATIBILITY:</b>	Strong oxidizers
<b>POLYMERIZATION:</b>	Not expected to occur
<b>THERMAL DECOMPOSITION:</b>	CO <sub>2</sub> , CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur.

### 11. TOXICOLOGICAL INFORMATION

<b>EYE IRRITATION:</b>	This product can cause mild, transient, eye irritation with short-term
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	contact with liquid or sprays.
<b>DERMAL IRRITATION:</b>	This material can cause mild, transient skin irritation with short-term exposure.
<b>INHALATION TOXICITY:</b>	No significant adverse health effects are expected to occur upon short-term exposure to this product. Aspiration of liquid into the lungs can cause severe lung damage or death.
<b>INGESTION IRRITATION:</b>	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect.
<b>INJECTION SENSITATION:</b>	Injection under the skin, in muscle, or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects and mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
<b>CHRONIC EXPOSURE SYMPTOMS</b>	Prolonged or repeated contact is toxic to lungs, digestive system, skin and eyes.
<b>OTHER REMARKS</b>	LD50 and LC 50 NOT AVAILABLE.

**12. HEALTH INFORMATION**

**HMIS CODE:**      **HEALTH:** 2    **FIRE:** 1    **REACTIVITY:** 0

No	<b>HIGHLY TOXIC</b>	No	<b>SENSITIZER</b>
No	<b>TOXIC</b>	No	<b>REPRODUCTIVE EFFECTS</b>
No	<b>CORROSIVE</b>	No	<b>MUTAGEN</b>
No	<b>IRRITANT</b>		

**13. DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL:**      It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Determine compliance status with all applicable requirements prior to disposal.

**14. TRANSPORT INFORMATION**

**DOT (DEPARTMENT OF TRANSPORTATION)**

<b>PROPER SHIPPING NAME:</b>	Petroleum lubricating oil.
<b>HAZARD CLASS:</b>	Not a DOT controlled material (United States).
<b>HAZARD IDENTIFICATION NUMBER:</b>	N/A
<b>DOT PLACARD:</b>	N/A
<b>COMPATIBILITY CATEGORY:</b>	N/A

**15. REGULATORY INFORMATION**

**SARA SECTION 313 - TOXIC CHEMICALS:**

This product does not contain toxic chemicals under SARA Section 313 and 40 CFR Part 372.

**SARA SECTION 311 - HAZARD CATEGORIES:**

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

YES	<b>IMMEDIATE (ACUTE) HEALTH HAZARD</b>	NO	<b>SUDDEN RELEASE OF PRESSURE HAZARD</b>
NO	<b>DELAYED (CHRONIC) HEALTH HAZARD</b>	NO	<b>REACTIVE HAZARD</b>
NO	<b>FIRE HAZARD</b>		

**SARA SECTION 302 - EXTREMELY HAZARDOUS WASTE:**

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

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**CLEAN WATER ACT (CWA):**

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

**CERCLA HAZARDOUS SUBSTANCES:**

As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance.

**U.S. TSCA INVENTORY**

All components of this material are listed on the U.S. TSCA Inventory.

**CALIFORNIA PROPOSITION 65**

This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

**NEW JERSEY RIGHT-TO-KNOW LABEL**

Petroleum oil.

**ADDITIONAL REGULATORY REMARKS**

None

**16. OTHER INFORMATION**

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information was prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. Lubricants USA believes this information to be reliable and up to date as of the date of publication, but makes no warranty that it is.

<b>NFPA HAZARD RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4
<b>HMIS HEALTH RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4

AP = approximately    EQ = equal    > = greater than    < = less than    NA = not applicable  
ND = no data    NE = not established

ACGIH = American Conference of Governmental Industrial Hygienists  
CERCLA = Comprehensive Environmental Response, Compensation and Liability Act (1980)  
EPA = Environmental Protection Agency  
IARC = International Agency for Research on Cancer  
NIOSH = National Institute of Occupational Safety and Health  
NPCA = National Paint and Coating Manufacturers Association  
OSHA = Occupational Safety and Health Administration  
SARA = Superfund Amendments and Reauthorization Act (1986)

AIHA = American Industrial Hygiene Association  
HMIS = Hazardous Materials Information System  
NFPA = National Fire Protection Association  
NLGI = National Lubricating Grease Institute  
NTP = National Toxicology Program  
RQ = Reportable quantity  
TSCA = Toxic Substance Control Act

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In accordance with ANSI Z400.1-2004  
 Date of issue: 12.15.2004  
 Revision date: 5.1.2006  
 Document: MSDS 150.2



# Material Safety Data Sheet

## High-Molybdenum Alloyed Stainless Steel grades

### 1. Product And Company Identification

Outokumpu Stainless Plate, Inc.  
 549 West State Road 38,  
 New Castle, IN 47362  
 Tel. 1-800 349 0023, 1-765 529 0120

Outokumpu Stainless Bar, Inc.  
 3043 Crenshaw Parkway,  
 Richburg, SC 29729  
 Tel. 1-888 458 4600, 1-803 789 5383

Outokumpu Stainless Pipe, Inc.  
 1101 North Main Street,  
 Wildwood, FL 34785  
 Tel. 1-800 731 7473, 1-352 748 1313

Outokumpu Stainless Coil, Inc.  
 425 North Martingale Road, Schaumburg, IL  
 Tel. 1-800 833 8703, 1-847 517 4050

#### Additional information:

Elisabeth Torrens, VP Technology, Outokumpu Stainless, Inc.  
 Tel. 1-800 349 0023, 1-765 529 0120, (Office hours)  
 e-mail: elisabeth.torrens@outokumpu.com

Products: Solid stainless steel products, various forms and uses.

#### Grades and Outokumpu Stainless Trademarks:

654 SMO<sup>®</sup>, XM-19, and 4565.  
 This includes all listed grades with letter prefixes and suffixes as well as PRODEC<sup>®</sup> suffix.

### 2. Hazards Identification

**Caution!** Dust and fumes from welding and other processing are eye, skin and respiratory irritants and sensitizers. May cause metal fume fever.

**Attention!** Cancer hazard. Dust and fumes can cause cancer.

#### OSHA Regulatory status

Solid stainless steel products covered by this MSDS are shipped as non-flammable, non-explosive, non-reactive articles and do not constitute a hazardous material in solid form under the terms of OSHA Hazard Communications Act. However, some metallic elements from which this product is manufactured are listed in OSHA Hazard Standard (29 CFR 1910.1000).

Solid stainless steel does not contain hexavalent chromium. Chromium as Cr(VI) compound can be found in fumes and dust formed by grinding, polishing, abrasive blasting, hot rolling, hot forging, thermal cutting or welding of stainless steel. Cr(VI) compounds can also be formed by cleaning stainless steel with

strong oxide formers at high pH. Cr(VI) is classified by NTP as "Known to be a human carcinogen" and by ACGIH as A1 "Confirmed Human carcinogen."

Manganese as metal and inorganic compounds in fumes and dust may cause CNS (manganism).

Nickel in alloys is not listed by NTP and classified by ACGIH as A5 "Not suspected as a Human carcinogen."

#### Potential health effects

No carcinogenic effects resulting from exposure to stainless steel have been reported, either in epidemiological studies or in tests with animals.

Skin contact: If an individual is already sensitized to nickel, prolonged skin contact may result in an allergic reaction.

Inhalation: Dust and fumes which may be produced as a by-product during grinding, polishing, abrasive blasting, hot rolling, hot forging, welding, brazing, thermal cutting, pickling and post-fabrication cleaning or similar processes may contain fumes of chromium (VI) oxides and other welding rod components.

Section 11 discusses health effects in more detail.

### 3. Components/ Information On Ingredients

Table 1

Component	CAS No.	% By Weight
Iron	7439-89-5	Balance
Silicon	7440-21-5	0.5-1.0
Manganese	7439-96-5	0.0-7.0
Chromium	7440-47-3	20.5-25
Nickel	7440-02-0	1.5-23
Molybdenum	7439-98-7	0.5-8.0
Titanium	7440-32-8	0-0.5
Copper	7440-50-8	0-0.6
Cobalt	7440-48-4	0-0.6

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Trace elements: All trace elements are cadmium, lead, mercury, hexavalent chromium, antimony, beryllium, and bismuth are below the levels specified in the European ELV and RoHS Directives, the Japanese Green Procurement Standardization Initiative, and the US EIA Joint Industry Guide JIG.

Other elements may be present such as Carbon, Nitrogen, Sulfur, Phosphorous, Boron, Aluminum, Calcium, Columbium, Tantalum and Tungsten. These are either not hazardous or below 0.1% concentration.

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Stainless Steel grades**

Revised in accordance with ANSI Z39.1-2004  
12-5-2004  
2000  
MSDS 15/02



**4. First Aid Measures**

Employ first aid techniques recommended by the American Red Cross.

**Eye Contact:** In case of irritation from particulate, immediately flush with plenty of water for 15 minutes and call for medical assistance. Austenitic stainless steel particles are not magnetic and will not respond to a magnet over the eye.

**Skin contact:** In case of skin irritation or laceration, wash thoroughly with plenty of soap and water.

**Inhalation:** Not applicable to stainless steel in massive form. Inhalation of dust and/or fumes from grinding, cutting and welding operations – If breathing is difficult remove person from exposed area to fresh air.

**Ingestion:** Accidental ingestion is unlikely. If ingested, call for medical assistance.

**5. Fire Fighting Measures**

Stainless steels are not combustible. There are no special hazards or precautions associated with stainless steels if in vicinity of a fire.

**6. Accidental Release Measures**

Not applicable.

**7. Handling And Storage**

There are no special technical measures involved for handling stainless steels. Normal precautions should be taken to avoid physical injury from coiled or bundled products, possibly with sharp edges.

- Do not use straps or bands, used to secure some products, for lifting. Coiled and bundled products (e.g sections, rods, bars) may spring apart when the banding is removed and the banding itself could cause eye or other injury when tension is released.
- Certain products may, as a result of processing, be brittle or have residual stresses that might cause fracture or significant deformation.
- All products are likely to have sharp edges that could cause lacerations and flying particles may be produced when shearing.
- Adopt suitable work procedures to take account of hazards arising from the risk of fracturing or the release of tension when breaking open banding.
- Use suitable racks to ensure stability when stacking narrow coils or bundled material.

**Occupational exposure limits 8-hour TWA mg/m3**

Component	OSHA PEL	ACGIH TLV	Carcinogenic listing		
			ACGIH	NTP	IARC
Iron oxide, dust & fume	10	5	A4	No	NE
Silicon dust	15 5(R)	10	NE	No	NE
Manganese, inorganic compounds	5 as Mn	0.2	No	No	NE
Manganese, fume	5 as Mn	NE	No	No	NE
Chromium metal	1 as Cr	0.5	A4	No	3
Chromium Cr(II) and Cr(III) compounds	0.5 as Cr	0.5	A4	No	3
Cr(VI) compounds, water-soluble	5 µg/m3 as Cr	0.05	A	A	1
Cr(VI) compounds, insoluble	5 µg/m3 as Cr	0.04	A1	A	2B
Nickel, in alloys	1 as Ni	1.5 (I)	A3	B	2B
Nickel, elemental metallic	1 as Ni	1.5 (I)	A3	A	2B
Nickel, soluble inorganic compounds	1 as Ni	0.1 (I)	A1	A	1
Nickel, insoluble inorganic compounds	1 as Ni	0.2 (I)	A1	A	1
Nickel, subsulfide	NA as Ni	0.1 (I)	A1	A	1
Nickel, carbonyl	0.007 as Ni	NE	No	A	1
Molybdenum, soluble compounds	6 as Mo	0.5 (R)	A3	No	NE
Molybdenum, metal and insoluble compounds	15 as Mo	10 (I) 3 (R)	No	No	NE
Titanium, in titanium dioxide form	15	10	A4	No	3
Copper, fume, current	0.1 as Cu	0.2	No	No	NE
Copper, dusts and mists, current	1 as Cu	1	No	No	NE
Copper, elemental metal and oxides, proposed	NE as Cu	0.1	A4	No	NE
Copper, soluble compounds, proposed	NE as Cu	0.05	A4	No	NE
Cobalt and inorganic compounds	0.1 as Co	0.02	A3	B: Cobalt sulfate	2B

TWA—Time Weighted Average, STEL—Short Term Exposure Limit NE=Not Established, R=Respirable fraction I=Inhalable fraction, BC=Biological Exposure Index ACGIH Ratings: A1=Confirmed Human Carcinogen, A2=Suspected Human Carcinogen, A3=Confirmed Animal Carcinogen with Unknown Relevance to Humans, A4=Not classifiable as a Human Carcinogen, AS=Not suspected a Human Carcinogen, NTP Ratings: A=Known to be a human carcinogen, B=Reasonably anticipated to be a human carcinogen, IARC Groups: 1=Carcinogenic to humans, 2A=Probably carcinogenic to humans, 2B=Possibly carcinogenic to humans, 3=Not classifiable as to carcinogenicity to humans.  
\*In effect May 30, 2006.

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In accordance with ANSI Z39.1-2004  
Date of issue: 12/18/2004  
Revision: 5-2007  
Version: 150-2

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**8. Exposure Controls/ Personal Protection**

**Exposure guidelines**

There are no occupational exposure limits for stainless steels. Occupational exposure limits apply to some components and certain of their compounds. Table 2 shows limits according to current US legislation.

**Engineering controls**

Employ appropriate control measures when welding, brazing, thermal cutting, burning, sawing, grinding, or post fabrication cleaning of stainless steel. Use local exhaust and dilution ventilation to control dust and/or fumes.

**Welding and related processes:** Read and understand the MSDS, manufacturer's instruction, and precautionary labels for welding consumables. See American National Standard Z49.1, Safety in Welding and Cutting, published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126, and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington, D.C. 20402, for more details on exposure controls.

**Pickling, acid cleaning and neutralization of cleaning wastes:**

Read and understand the cleaning product MSDS, manufacturer's instruction and precautionary labels for cleaning agents. Unintended use of strong oxidizers (high pH) on stainless steel may cause CrVI compounds to form at ambient temperatures.

**Eye/face protection:** Wear ANSI Z87.1 approved safety glasses with side shields or goggles where metal dust or fume is present. Use appropriate eye protection, including welding helmets and/or face shields with protective filter lenses when welding, brazing or thermal cutting. Select welding lens shades from the American Welding Society (AWS) publication F2.2. Use appropriate eye/face protection when cleaning and pickling stainless steel.

**Skin protection:** Wear protective gloves while handling stainless steel to prevent cuts and skin abrasions, and to reduce the risk of sensitization from skin contact. Wear appropriate hand protection when welding, brazing and thermal cutting. Wear acid proof gloves when cleaning and pickling stainless steels.

**Respiratory protection:** Use a NIOSH-approved respirator for dust and fumes or an air supplied respirator where local exhaust or general dilution ventilation does not keep exposures below the PEL or TLV for air contaminants.

**Protective clothing:** Wear suitable protective clothing and equipment, such as hand and eye protection to take account of hazards arising from the risk of fracturing or the release of tension when breaking open banding. Safety shoes are recommended. Wear appropriate hand and body protection during welding, brazing, and thermal cutting on stainless steel. Refer to ANSI Z49.1 for more information. Wear appropriate hand and body protection when cleaning and pickling stainless steel.

**General Hygiene Considerations:** Do not eat, smoke, or drink in

areas where metal dust or fume is present. Utilize good personal hygiene including washing hands and face prior to eating or drinking.

**9. Physical And Chemical Properties**

**Color:** Varying from dull very light grey, to shiny metallic light grey to bright mirror-finish

**Odor:**

Odorless

**Odor threshold:**

Not applicable

**Physical state:**

Solid

**pH:**

Not applicable

**Melting point:**

2500 - 2760 °F (1370 - 1520 °C)

**Boiling point:**

Not applicable

**Flash point:**

Not applicable

**Evaporation rate:**

Not applicable

**Flammability:**

Not applicable

**Explosive limits:**

Not applicable

**Vapor pressure:**

Not applicable

**Vapor density:**

Not applicable

**Specific gravity:**

0.27 - 0.30 lbs./in<sup>3</sup> (7.7 - 8.1 kg/dm<sup>3</sup>)

**Solubility (water):**

Insoluble

**Partition coefficient:**

Not applicable

**Auto-ignition temperature:**

Not applicable

**Decomposition temperature:**

Not applicable

**Thermal expansion (ambient to 100°C):**

10 - 16 x10<sup>-6</sup> m/m°C

**Thermal conductivity (ambient temperature):**

12 - 30 W/m°C

**Magnetic:** Austenitic stainless steels are non-magnetic in most supply conditions, but may be para-magnetic in some supply conditions.

**10. Stability And Reactivity**

**Chemical stability:** Stable and non-reactive under normal ambient atmospheric conditions.

**Conditions to avoid:** None known

**Incompatible materials:** May react in contact with strong acids to release gaseous acid decomposition products, e.g. hydrogen, oxides of nitrogen. Use of strong oxidizers (high pH) on stainless steel may cause CrVI compounds to form at ambient temperatures.

**Possibility of hazardous by-products - Welding fumes:**

Various fumes and gases may be produced when stainless steel is subjected to welding, brazing, thermal cutting, and similar processes at high temperature. Such fumes and gases cannot be simply classified. The composition and quantity of both are dependent upon the composition of the base metal and the process, procedures, and consumables being used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include; coatings on the base metal (such as paint, plating, galvanizing, and phosphate coatings), the number of workers performing welding, brazing, thermal cutting, or other related operations, the volume of the work area, the quantity of consumables used, the design and amount of ventilation delivered, the position of the worker's head

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Product Name: ANS1/A4001-2007A  
Date Revised: 06/15/2007  
Revision Number: 5112008  
Document: WSPS 1502

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with respect to the fume plume, and the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from solvent, cleaning, or painting activities) which may decompose by the arc into toxic gases such as phosgene.

Decomposition products from welding, brazing, thermal cutting operations will include those originating from the volatilization, reaction, or oxidation of ingredients in welding rods, fluxes, and fillers, plus those from the base metal and coatings, etc. Possible decomposition products that may be generated during welding, brazing or thermal cutting include complex oxides of the ingredients listed in Section 3. Fumes generated during welding, brazing, or thermal cutting may contain: chromium compounds, including hexavalent chromium (Cr VI); nickel; manganese; iron; molybdenum; and silicon compounds.

The employer is required by OSHA to limit the worker's level of exposure to chemicals for which OSHA has established a PEL in 29 CFR 1910 Subpart Z. The only way to determine a worker's exposure to welding, brazing or thermal cutting decomposition products is by sampling and analyses using accepted industrial hygiene techniques. The composition and quantity of the fumes and gases to which a worker is exposed can be established from an air sample(s) obtained from inside the welder's helmet, if worn, or in the worker's breathing zone. Review ANSI/AWS F1.1 and F1.3 standards for further information on air sampling for welding decomposition products.

## 11. Toxicology Information

### Acute effects

In its solid form stainless steel does not present an inhalation, absorption, or ingestion hazard.

Short-term over-exposure to the fumes generated by hot rolling, hot forging, welding, brazing, or thermal cutting on stainless steel may result in dizziness; nausea; and irritation of the eyes, skin, lungs, nose and throat. Metal fume fever, a flu-like illness lasting about 24 hours with chills, ache, cough, and fever can be caused by overexposure to metal fumes, including iron, chromium, manganese and copper.

Metal dust particles may cause eye, skin and/or respiratory system irritation. Acute asthma attacks may be experienced by asthmatics when metal dust or fume is inhaled.

### Chronic effects, inhalation or ingestion

#### Dust and fumes

Grinding, polishing, abrasive blasting, hot rolling, hot forging, thermal cutting or welding may produce stainless steel dust or fumes containing complex or mixed oxides (spinels) of its components. Over long periods, inhalation of excessive airborne levels may have long term health effects, primarily affecting the lungs, e.g. lung fibrosis, or pneumoconiosis. Overexposure to iron oxide can cause siderosis (deposits of iron in the lungs) which may affect pulmonary function. However, studies of workers

exposed to nickel powder and dust and fumes generated in the production of nickel alloys and stainless steels have not indicated a respiratory cancer hazard.

### Nickel

For stainless steels there is no direct evidence of carcinogenic effects in man, nor indirect evidence from animals tested by relevant routes, i.e. inhalation or ingestion. In other studies, using non-relevant routes in animals, alloys with up to 40% nickel caused no significant increase in cancer.

The National Toxicology Program modified its classification of nickel in the 10<sup>th</sup> Report on Carcinogens, 2002. Nickel alloys, e.g. stainless steels were reviewed but were excluded due to inadequate human data and insufficient rodent cancer data to list. NTP regards metallic nickel as "Reasonably anticipated to be a carcinogen" and nickel compounds are "Known human carcinogens."

California Proposition 65 has adopted the same distinctions as NTP.

ACGIH is now classifying elemental nickel as A5 "Not suspected as a Human carcinogen."

OSHA has not made a distinction and lists "nickel metal and insoluble compounds" in 29 CFR 1910.1000.

### Chromium

Grinding, polishing, abrasive blasting, hot rolling and hot forging dust, welding fumes and thermal cutting fumes may contain Cr(VI) hexavalent chromium compounds. Studies have shown that some hexavalent chromium compounds can cause cancer.

Chromium as Cr(VI) hexavalent compound in fumes and dust is classified by NTP as "Known to be a human carcinogen" and by ACGIH as A1 "Confirmed Human carcinogen."

Chromium as metal or Cr(II) and Cr(III) oxides is not listed by NTP and is classified by ACGIH as A4 "Not classifiable as a human carcinogen." However, epidemiological studies amongst welders indicate no extra risk of cancer when welding stainless steels, compared to the slightly increased risk when welding steels that do not contain chromium.

### Manganese

Overexposure to manganese can result in central nervous system effects referred to as manganism, including symptoms of muscular weakness, impaired speech and tremors similar to Parkinson's disease. However, a new study of 49,488 male welders compared to 489,572 men from the general Swedish population did not reveal any statistically significantly increased risks for Parkinson's disease or other basal ganglia and movement disorders for welders compared with an age and geographically matched general population comparison cohort.

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STAINLESS

**Material Safety Data Sheet**  
**High-Molybdenum Alloyed**  
**Stainless Steel grades**

In accordance with ANSI Z4001-2004  
 OSHA 29 CFR 1910.1200  
 Revision date 05/2008  
 Document ID: MSDS-502

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**Molybdenum and Copper**  
 Both molybdenum and copper are necessary nutritional elements. High doses of molybdenum may antagonize absorption of copper. Likewise, high doses of copper may antagonize absorption of molybdenum.

Overexposure to molybdenum causes anemia, gout-like syndrome and increases uric acid levels. In experimental animals molybdenum toxicity causes weight loss, harmful changes of the liver, kidneys, and bones and impaired reflexes.

**Cobalt**  
 Cobalt in stainless steel is an alloy. None of the classifications of cobalt is valid for alloys. Cobalt dust may cause an asthma-like disease. Based on hard-metal workers, IARC has made a difference between cobalt metal with (2A) and without (2B) tungsten. NTP's 11<sup>th</sup> report on Carcinogens classifies cobalt sulfate as "Reasonably anticipated to be carcinogen." ACGIH classifies cobalt as A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans.

**Dermatological effects**  
 Stainless steels do not cause nickel sensitization by prolonged skin contact in human. However, nickel is classified as a skin sensitizer. It causes skin sensitization in susceptible individuals through prolonged intimate contact with the skin (e.g. wearing jewelry).

Numerous patch tests have established that most stainless steels do not cause sensitization. However, studies have shown that, in some individuals already sensitized to nickel, close and prolonged

skin contact with the re-sulfurized free-machining types of stainless steels with 0.15 – 0.35% S (416, 430F, 303, 303Cu) may cause an allergic reaction.

**Other observations**  
 Long-term experience of stainless steels in the most varied applications has demonstrated that these very resistant materials are eminently suitable where hygiene is of paramount importance (e.g. food processing and food preparation). NIOSH lists Welding exposure as the 10<sup>th</sup> largest cause of work-related asthma, but makes no distinction between stainless and carbon steel welding. There are some reports indicating that there is a risk of developing asthma from chromium (VI) compounds and nickel in welding fumes. In the European Union, stainless steel welding fume did not meet the classification criteria required to be listed as a "substance causing asthma."

**12. Ecological Information**

No known harmful effects. No special precautions are required.

**13. Disposal Considerations**

If discarded, the material is classified as RCRA hazardous waste due to the chromium, manganese and nickel contents.

Recycle if possible. Surplus and scrap (waste) stainless steel is valuable and in demand for the production of prime stainless steel. Recycling routes are well established, and recycling is therefore the preferred disposal route.

**14. Transport Information**

Stainless steel products in the solid form are not classified as HAZMAT. No Label is required during transport.

**EPCRA / SARA Section 302, 304, 311/312 and 313**

Table 3

Component	CAS #	Section 302 EHS	Section 304 Spill	Section 311/312 Hazard classes	Section 312 SARA Tier II	Section 313 Form R
			Reporting Quantity, lbs.		Threshold Planning Quantity, lbs.	By weight %
Chromium	7440-47-3	Not applicable	5,000	Chronic health hazard	10,000	20.5 - 25
Nickel	7440-02-0	Not applicable	100	Chronic health hazard	10,000	14.5 - 25
Manganese compounds	7440	Not applicable	No RC established	Chronic health hazard	10,000	2.0 - 7.0

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California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)  
**WARNING:** This product contains or produces chemicals known to the State of California to cause cancer. (California Health and Safety Code §25249.5 et seq.)

**6 Material Safety Data Sheet**  
**High-Molybdenum Alloyed**  
**Stainless Steel grades**

In accordance with ANSI Z39.1-2004  
 Date of issue: 12.15.2004  
 Revision date: 12.2006  
 Document: MSDS 150.1

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**15. Regulatory Information**

See Table 3 for EPCRA/SARA information. For solid stainless steel products the required Label may be transmitted to the customer at the time of the initial shipment, see 29 CFR 1910.1200 (b)(2)(i).

**Inventories**

OSHA	United States	Included
TSCA	United States	Included

**16. Other Information**

Basic information used to draw up this information:

References to key data:

- OSHA, Standards 29 CFR.1910.1000-1200
- ANSI Z49.1:2005, Safety in Welding and Cutting
- EPA Consolidated List of Chemicals Subject to the Emergency Planning and Community-Right-to-Know Act (EPCRA) and section 112(r) of the Clean Air Act.
- DOT, Standards 49 CFR.172.101-102
- National Toxicology Program, 11<sup>th</sup> Report on Carcinogens, 2005
- ACGIH, TLVs and BEIs, 2006 edition
- International Agency for Research on Cancer, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, vol. 1- 88
- N. Becker: Cancer mortality among arc welders exposed to fumes containing chromium and nickel. Results of a third follow-up: 1989-1995
- IMOA, International Molybdenum Institute
- Outokumpu Stainless MSDS, European version, 1005EN-2, March 2004.
- C.M. Ford: Parkinson's Disease and other Basal Ganglia or Movement disorders in a large nationwide cohort of Swedish welders, Occupational and Environmental Medicine, February 2006.

This MSDS replaces:

Outokumpu Stainless MSDS 150.1 dated 12.15.2004.

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**Disclaimer**

The information contained in this document is based on the present level of our knowledge and experience. The information applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other material or in any other product form.

**Availability**

All Outokumpu Stainless US MSDS are available at the Outokumpu website. To find them go to <http://www.outokumpu.com/stainless/na> and click on the MSDS sidebar.

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