

SAFETY DATA SHEET



This Safety Data Sheet (SDS) complies with the requirements of the U.S. Federal Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200, as updated in 2012) and equivalent state Standards. It has also been developed in accordance with the United Nations Globally Harmonized System of Classification of Chemicals (GHS) and the Canadian Workplace Hazardous Materials Information System (WHMIS). Refer to Section 16 of this document for the definition of terms and abbreviations.

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFICATION

- **PRODUCT NAME:** TARNISH PREVENTER

1.2 PRODUCT USE AND RESTRICTIONS

- **IDENTIFIED USE:** Various metal-working and finishing applications.
- **IDENTIFIED USERS:** For sale to, use and storage by personnel trained in handling product safely.

1.3 MANUFACTURER INFORMATION

- **MANUFACTURER/SUPPLIER:** JAX CHEMICAL COMPANY
- **ADDRESS:** 640 South Fulton Avenue, Mount Vernon, NY 10550
- **BUSINESS PHONE:** 914-668-1818 (Monday – Friday, 9:00 am – 5:00 pm)
- **EMERGENCY PHONE:** 1-800-535-5053 (INFOTRAC; U.S. & Canada; 24 hours)
+1-352-323-3500 (INFOTRAC; International)

1.4 OTHER PRODUCT INFORMATION

- This product is sold and used in relatively small volumes. This SDS has been developed to address safety concerns affecting specific handling situations associated with product use and those involving warehouses and other workplaces where large numbers of product containers are stored or distributed.

SECTION 2: HAZARDS IDENTIFICATION

2.1 HAZARD CLASSIFICATION

- Eye Irritation (Category 2A); Respiratory Sensitization (Category 1); Germ Cell Mutagenicity (Category 1B); Carcinogenicity (Category 1B); Reproductive Toxicity (Category 1B); Specific Target Organ Toxicity Repeated Exposure – Inhalation (Category 1)

2.2 LABEL ELEMENTS



- **Hazard Pictograms:**
- **Signal Word:**
- **Hazard Statements:**

DANGER.

Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic effects. May damage fertility or the unborn child. May cause cancer. Causes damage to respiratory system, liver, blood, and kidneys through prolonged or repeated inhalation exposure.

- **Precautionary Statements**
 - **Prevention:**

Keep out of reach of children. Read label before use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist/ vapors/ spray. Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection/face protection. In case of inadequate ventilation, wear respiratory protection.

SECTION 2: HAZARDS IDENTIFICATION (Continued)

- **Response:** IF INHALED: Remove person to fresh air and keep comfortable for breathing. . If experiencing respiratory symptoms, call a Poison Center or Doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. get medical advice if you feel unwell.
- **Storage:** Store locked up.
- **Disposal:** Dispose of contents/container in accordance with local, city, state and national regulations.

2.3 OTHER PERTINENT DATA ON HEALTH, PHYSICAL, AND ENVIRONMENTAL HAZARDS

- **Product Aquatic Toxicity:** Acute aquatic toxicity (Category 3); Chronic aquatic toxicity (Category 3). Harmful to aquatic life with long-lasting effects. Avoid release into the environment.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 IDENTIFICATION OF HAZARDOUS SUBSTANCES IN PRODUCT

COMPONENT	CAS NUMBER	GHS HAZARD CLASSIFICATION	% (w/w)
Sodium Dichromate	10588-01-9	Oxidizing solids (Category 2); Acute toxicity, Oral (Category 2); Acute toxicity, Inhalation (Category 4); Acute toxicity, Dermal (Category 4); Skin corrosion (Category 1B); serious eye damage (Category 1); Respiratory sensitization (Category 1); Germ cell mutagenicity (Category 1B); Carcinogenicity (Category 1B); Reproductive toxicity (Category 1B); Specific target organ toxicity - repeated exposure, Inhalation (Category 1; Liver, Kidney, Blood); Acute aquatic toxicity (Category 1; M Factor = 1); Chronic aquatic toxicity (Category 1)	0.1-2.0%
Aqueous solution, with components that are below 1.0% in concentration (or below 0.1% in concentration for carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens). All ingredients are listed per the requirements of regulations pertinent to Safety Data Sheet requirements under various regulations.			Balance

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

- **BASIC FIRST AID BY EXPOSURE ROUTE:**

AREA EXPOSED

Eye Contact:

TREATMENT

Flush with copious amounts of water for 15 minutes. "Roll" eyes during flush. Seek medical attention if irritation persists.

Skin Contact:

Flush area with warm, running water for several minutes. Seek medical attention if irritation persists or there is skin tissue damage. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Seek medical attention if irritation persists.

Inhalation:

Obtain fresh air. Seek medical attention if irritation persists or symptoms continue after exposure ends.

Ingestion:

If conscious only: Rinse mouth with water. Drink several cups of water. Do not induce vomiting. Contact a Poison Control Center or physician for instructions.

Additional Steps:

Wash clothing after reuse.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

- **ACUTE HEALTH EFFECTS:**

AREA EXPOSED

Eye Contact:

Causes serious irritation to the eyes.

Skin Contact:

May cause mild to moderate irritation of the skin, depending on duration of exposure.

Inhalation:

May be mildly irritating to the respiratory system; inhalation of sprays, mists, and vapors can cause coughing and nasal congestion.

Ingestion:

May be harmful if swallowed. May be mildly irritating to the digestive system; ingestion may cause nausea, vomiting, and diarrhea.

SECTION 4: FIRST AID MEASURES (Continued)

- **CHRONIC HEALTH EFFECTS:** May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic effects. May damage fertility or the unborn child. May cause cancer. Causes damage to respiratory system, liver, blood, and kidneys through prolonged or repeated inhalation exposure.
- **TARGET ORGANS:** Eyes, reproductive system, liver, kidneys, blood.

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

- **GENERAL INFORMATION: For all exposures:** In case of accident, or if you feel unwell, seek medical advice immediately. Take this document and a copy of the label to the healthcare professional.
- **RECOMMENDATIONS TO PHYSICIANS:** Treat symptomatically.
- **MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** Medical conditions impacting the target organs can be aggravated upon overexposure.

SECTION 5: FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

- **RECOMMENDED FIRE EXTINGUISHING MEDIA:** Water Spray, Water Jet, Dry Powder, Foam, Carbon Dioxide, Halon, or any other.
- **UNSUITABLE FIRE EXTINGUISHING MEDIA:** None known.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

- **NFPA FLAMMABILITY CLASSIFICATION:**

NFPA Rating:



NFPA Hazard Classification: Not flammable.

- **UNUSUAL HAZARDS IN FIRE SITUATIONS:**

POTENTIAL HAZARD

Decomposition:

Incompatibilities:

Explosion Sensitivity to Mechanical Impact:

Explosion Sensitivity to Static Discharge:

DESCRIPTION FOR PRODUCT

When involved in a fire, this material may produce irritating vapors and toxic gases (e.g., oxides of sodium and chromium).

See Section 10 (Reactivity and Stability).

Not applicable.

Not applicable.

5.3 ADVICE FOR FIREFIGHTERS

- Self-Contained Breathing Apparatus and full protective equipment for fire response should be worn in any situation. Move containers from fire area if it can be done without risk to personnel. Otherwise, use water spray to keep fire-exposed containers cool.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

- **RESPONSE TO INCIDENTAL RELEASES:** Personnel who have received basic chemical safety training can generally handle small-scale releases. Gloves and safety glasses must be worn when cleaning-up spills. Use caution during clean-up; contaminated floors and items may be slippery.
- **RESPONSE TO NON-INCIDENTAL RELEASES:** Generally, releases of this product will be no larger than the loss of one shipment of material. Subsequently, personnel can follow the instructions for incidental releases. As needed, respond to non-incident chemical releases of this product (such as the simultaneous destruction of several pallets of this product) by clearing the impacted area and contacting appropriate emergency personnel. In the event of a non-incident release (more than 1 gallon), minimum Personal Protective Equipment should be Level C: triple-gloves, chemical resistant apron, boots, and splash goggles and an Air-Purifying respirator with organic vapor cartridge. Level B which includes the use of Self-Contained Breathing Apparatus, should be worn when oxygen levels are below 19.5% or are unknown. Absorb spilled liquid with polypads or other suitable absorbent materials.
- **RESPONSE PROCEDURES FOR ANY RELEASE:** Absorb spilled liquid with polypads or other suitable absorbent materials. Rinse contaminated items and area thoroughly.

SECTION 6: ACCIDENTAL RELEASE MEASURES (Continued)

6.2 ENVIRONMENTAL PRECAUTIONS

- **IN CASE OF SPILL:** Collect spillage promptly. Avoid response actions that can cause a release of a significant amount of the substance into the environment. Avoid accidental dispersal of spilled material into soil, waterways and sewers.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

- **SPILL RESPONSE EQUIPMENT:** Polypad or other absorbent material.

6.4 REFERENCE TO OTHER SECTIONS

- See Section 8 (Exposure Controls/Personal Protection) for personal protective equipment recommendations.
- See Section 13 (Disposal Recommendations) for information on waste disposal.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

- **HYGIENE PRACTICES:** Follow good chemical hygiene practices. Do not smoke, drink, eat, or apply cosmetics in the chemical use area. Avoid inhalation of vapors, mists and sprays. Use in well-ventilated area. Avoid contact with skin or eyes. Remove contaminated clothing promptly. Clean up spilled product immediately.
- **HANDLING PRACTICES:** Employees must be appropriately trained to use this product safely as needed. Keep containers closed when not in use.

7.2 CONDITIONS FOR SAFE STORAGE

- **STORAGE PRACTICES:** Ensure all containers are correctly labeled. Store containers away from direct sunlight, sources of intense heat, or where freezing is possible. Store this product away from incompatible chemicals. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Empty containers may contain residual liquid; therefore, empty containers should be handled with care.
- **INCOMPATIBILITIES:** See Section 10 (Stability and Reactivity).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

- **AIRBORNE EXPOSURE LIMITS:**

COMPONENT	ACGIH TLV	OSHA PEL	NIOSH REL	OTHER
Sodium Dichromate (as Chromium VI, inorganic, water soluble).	TWA = 0.002 mg/m ³ (Inhalable Fraction); STEL = 0.005 mg/m ³ Skin; Dermal Sensitizer; Respiratory Sensitizer.	0.005 mg/m ³ Also: 29 CFR 1910.1026	0.002 mg/m ³	NE

- **BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS:** The following Biological Exposure Indices are applicable to components of this product:
 - **Sodium Dichromate** (Chromium IV, water soluble fume): Total chromium in urine – end of shift at end of workweek – 25 µg/L; Total chromium in urine – Increase during shift – 10 µg/L

8.2 EXPOSURE CONTROLS

- **ENGINEERING CONTROLS:** Ensure area has adequate ventilation.
- **RESPIRATORY PROTECTION:** None normally required during use with this product.
- **HAND PROTECTION:** Neoprene or nitrile gloves are recommended. Ensure gloves are intact prior to use.
- **EYE PROTECTION:** A face shield with safety glasses is recommended if splashes or sprays can be generated. Otherwise, wear safety glasses with side-shields or safety goggles.
- **BODY PROTECTION:** Use body protection appropriate to task (rubber apron, lab coat).

8.3 PERSONAL PROTECTIVE EQUIPMENT SYMBOLS

Hand
Protection



Eye/Face
Protection



Body
Protection.



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

• APPEARANCE AND DISTINGUISHING CHARACTERISTICS:

<u>PROPERTY</u>	<u>DATA</u>
State:	Liquid.
Color:	Light orange.
Odor:	Odorless.
Odor Threshold:	Not applicable.
pH:	5.7

• PHYSICAL DATA:

<u>PROPERTY</u>	<u>DATA</u>
Melting Point/Freezing Point:	Approximately 0°C (32 °F).
Initial Boiling Point/Boiling Range:	Approximately 100°C (212 °F).
Flash Point:	Not applicable.
Evaporation Rate (Water = 1):	Approximately 1.0.
Flammability:	Not applicable.
Upper/Lower Explosive Limits	Not applicable.
Vapor Density	Not determined.
Relative Density (Density):	1.02
Solubility:	Soluble in water.
Partition Coefficient/n-octanol/water:	Not determined.
Autoignition Temperature:	Not applicable.
Decomposition Temperature:	Not determined.
Viscosity:	Not determined.

9.2 OTHER USEFUL INFORMATION ON PROPERTIES

- VOC (less water & exempt): 0.0 g/L VOC % By WEIGHT: 0.0%.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY AND CHEMICAL STABILITY

- The product is not reactive under typical conditions of use or handling.
- Normally stable under standard temperatures and pressures.

10.2 POSSIBILITY OF HAZARDOUS REACTIONS

- Product is not self-reactive, water-reactive, or air-reactive; it will not undergo hazardous polymerization.

10.3 CONDITIONS TO AVOID

- Avoid contact with incompatible chemicals.

10.4 INCOMPATIBLE MATERIALS

- Strong bases, water reactive materials.

10.5 HAZARDOUS DECOMPOSITION PRODUCTS

- Thermal decomposition of this product generates compounds containing chromium and sodium.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON ACUTE TOXICITY

- **PRODUCT TOXICOLOGY DATA:** The following are calculated estimates for the product:

- Acute Toxicity Estimate (Oral) > 2000 mg/kg
- Acute Toxicity Estimate (Dermal) > 2000 mg/kg
- Acute Toxicity Estimate (Inhalation) > 20 mg/L

- **SUBSTANCE TOXICOLOGY DATA:** The following data are available for the hazardous components in this product listed in Section 3 (Composition/Information on Ingredients).

SODIUM DICHROMATE
LD50 (Oral, Rat) = 50 mg/kg

SECTION 11: TOXICOLOGICAL INFORMATION (Continued)

- **DEGREE OF IRRITATION:** The product can cause serious eye irritation and may cause mild skin irritation.
- **SENSITIZATION:** Sodium Dichromate is a respiratory sensitizer; it may also cause sensitization via skin contact.
- **REVIEW OF ACUTE SYMPTOMS AND EFFECTS BY ROUTE OF EXPOSURE:** See Section 2 (Hazards Information) and Section 4 (First-Aid Measures) for additional details.
 - **Eyes:** Can cause serious eye irritation. Symptoms can include redness and pain.
 - **Skin:** Can cause mild to moderate skin irritation, especially upon prolonged contact. Symptoms can include pain, redness, and itching.
 - **Inhalation:** May be mildly irritating to the respiratory system; inhalation of sprays, mists, and vapors can cause coughing and nasal congestion.
 - **Ingestion:** May be mildly irritating to the digestive system; ingestion may cause nausea, vomiting, and diarrhea.

11.2 INFORMATION ON CHRONIC TOXICITY

- **CARCINOGENICITY STATUS:** This table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be, or suspected to be, a carcinogen by the listed agency.

CHEMICAL	IARC	NTP	NIOSH	OSHA	OTHER
Sodium Dichromate (as Chromium VI, inorganic, water soluble).	IARC-1 Carc. to humans	Known to be Human Carc.	Carc.	29CFR1910.1026	EPA-A: Known to be a Carcinogen TLV-A1: Known Carcinogen

- **REPRODUCTIVE TOXICITY INFORMATION:** The components of this product are not reported to cause reproductive effects under typical circumstances of exposure. The following reproductive toxicity data are reported for components of this product:
 - **SODIUM DICHROMATE:** May cause reproductive disorders. Teratogenicity -May cause congenital malformation in the fetus. Presumed human reproductive toxicant.
- **MUTAGENIC EFFECTS:** The following mutagenicity data have been reported for components of this product:
 - **SODIUM DICHROMATE:** May alter genetic material- In vivo tests showed mutagenic effects; Genotoxicity in vitro - rat – Liver, DNA damage; Genotoxicity in vitro - Hamster – Lungs, Sister chromatid exchange; Genotoxicity in vivo - rat – Intratracheal, DNA damage
- **SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Not applicable.
- **SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** The following data are available for components of this product:
 - **SODIUM DICHROMATE:** Inhalation - Causes damage to organs through prolonged or repeated exposure.
- **ASPIRATION HAZARD:** Not applicable.

11.3 OTHER USEFUL TOXICOLOGY INFORMATION

- **TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None known.
- **ADDITIONAL TOXICOLOGY:** None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ENVIRONMENTAL TOXICITY

- Based on available data, this product is anticipated to be harmful or fatal to contaminated terrestrial plants or animals.
- Based on available data, this product is anticipated to be harmful or fatal to contaminated aquatic plants or animals.
- Based on the concentration of components, the product is classified as Acute aquatic toxicity (Category 3); Chronic aquatic toxicity (Category 3).
- The following aquatic toxicity data are available for components of this product:
 - **SODIUM DICHROMATE:** Aquatic Vertebrates - Very toxic to aquatic organisms (0.6-2.6 mg/l), may cause long-term adverse effects in the aquatic environment. Algae growth inhibition.

SECTION 12: ECOLOGICAL INFORMATION (Continued)

12.2 PERSISTENCE AND DEGRADABILITY

- When released into the soil, the components of this product are expected to biodegrade, dissipate in soils via oxidation, or otherwise chemically degrade or photo-decompose via solar radiation.

12.3 BIOACCUMULATIVE POTENTIAL

- No data available.

12.4 MOBILITY IN SOIL

- It is to be expected this product will have small mobility in soil. Some of the components may get into the soil and, ultimately, the ground water. Product spreads on the water surface.

12.5 OTHER ADVESE ENVIRONMENTAL EFFECTS

- None reported.

SECTION 13: DISPOSAL CONSIDERATION

13.1 WASTE TREATMENT METHODS

- Dispose of in accordance with local, state and national regulations.
- Do not mix wastes of this product with other waste streams.

13.2 DISPOSAL CONSIDERATIONS

- **EPA RCRA WASTE CODE:** D007; applicable to wastes consisting only of this product.

13.3 DISPOSITION OF EMPTY CONTAINERS

- Empty containers may contain residual liquid; therefore, empty containers should be handled with care.
- Empty containers should be discarded properly.

SECTION 14: TRANSPORT INFORMATION

14.1 HAZARDOUS MATERIALS TRANSPORTATION REGULATIONS

- **DEPARTMENT OF TRANSPORTATION HAZARDOUS MATERIALS SHIPPING REGULATIONS:**

UN/NA Number	Proper Shipping Name	Packing Group	Hazard Class	Label	North American Emergency Response Guide #	Marine Pollutant Status
NOT APPLICABLE						

- **LIMITED QUANTITY EXCEPTIONS [49 CFR 173.154(b)]:** Not applicable.
- **CANADIAN TRANSPORTATION INFORMATION:** This product is not regulated by Transport Canada as dangerous goods under Canadian transportation standards. Refer to above information.
- **IATA DESIGNATION:** This product is not regulated as dangerous goods by the International Air Transport Association.
- **IMO DESIGNATION:** This product is not regulated as dangerous goods by the International Maritime Organization.

14.2 ENVIRONMENTAL HAZARDS

- Not applicable.

14.3 SPECIAL PRECAUTIONS FOR TRANSPORTERS

- Avoid release into the environment and collect spillage if it occurs.

14.4 TRANSPORT IN BULK

- Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 OTHER IMPORTANT U.S. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

- **U.S. SARA THRESHOLD PLANNING QUANTITY:** Not applicable.
- **U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21):** Eye Damage/Irritation; Respiratory Sensitization; Germ Cell Mutagenicity; Carcinogenicity; Reproductive Toxicity; Specific Target Organ Toxicity.
- **U.S. CERCLA REPORTABLE QUANTITY (RQ):** Sodium Dichromate = 4.54 kg (10 lb.).
- **U.S. TSCA INVENTORY STATUS:** All components of this product are listed on the TSCA Inventory.
- **US SARA 313:** Sodium Dichromate is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

15.2 OTHER IMPORTANT U.S. STATE REGULATIONS FOR COMPONENTS

- **CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS:** Sodium Dichromate is a compound known to the state of California to cause cancer, birth defects and other reproductive harm.
- **STATE HAZARDOUS SUBSTANCES LIST:**

COMPONENT	NJ Right to Know	PA Right to Know	MA Right to Know	OTHER
Sodium Dichromate	LISTED	LISTED	LISTED	ND

15.3 OTHER IMPORTANT CANADIAN SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS

- **ADDITIONAL WHMIS INFORMATION:** The following information pertinent to this product.
 - **WHIMS 2015:** See Section 2.
 - This SDS contains all the information required by the HPR.
- **CANADIAN DSL/NDSL INVENTORY STATUS:** Listed components of this product are on the DSL/NDSL Inventory.
- **CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITY SUBSTANCES LISTS:** Sodium Dichromate (as a Hexavalent Chromium Compound) is on Priority List 1.

SECTION 16: OTHER INFORMATION

16.1 INDICATION OF CHANGE

- **DATE OF REVISION:** March 29, 2019
- **SUPERCEDES:** January 13, 2017
- **CHANGE INDICATED:** Review and update of occupational airborne exposure and regulatory information.

16.2 HAZARDOUS MATERIALS SYSTEM RATING

Health	2*	<u>Respiratory sensitizer; carcinogen; reproductive toxin.</u>
Flammability	0	
Physical Hazard	0	
Protective Equipment	B/C	<u>(Personal Protective Equipment Rating:</u> Occupational Use situations: B: Gloves/safety goggles-safety glasses with side shields; C: Add body protection if splashes/sprays can be generated.

SECTION 16: OTHER INFORMATION (Continued)

16.3 DEFINITIONS

SECTION EXPLANATION OF TEMS/ABBREVIATIONS

- ALL** **OSHA:** U.S. Federal Occupational Safety and Health Administration. **WHMIS:** Canadian Workplace Hazardous Materials Standard. **GHS:** Globally Harmonized System of Classification of Chemical Substances. **HCS:** Hazard Communication Standard (U.S.). **HPR:** Hazardous Products Regulations (Canada).
- 3** **CAS Number:** Chemical Abstract Service Number, used by the American Chemical Society to uniquely identify a chemical.
- 5** **NFPA:** National Fire Protection Association. **NFPA FLAMMABILITY CLASSIFICATION:** The NFPA uses the flash point (Fl.P.) and boiling point (BP) to classify flammable or combustible liquids. Class IA: Fl.P. below 73°F and BP below 100°F. Class IB: Fl.P. below 73°F and BP at or above 100°F. Class IC: Fl.P. at or above 73°F and BP at or above 100°F. Class II: Fl.P. at or above 100°F and below 140°F. Class IIIA: Fl.P. at or above 140°F and below 200°F. Class IIIB: Fl.P. at or above 200°F. **NFPA HAZARDOUS MATERIALS RATING:** This is a rating system used to summarize physical and health hazards to firefighters Blue = Health hazard; Red = Fire Hazard; Yellow = Reactivity Hazard. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.
- 8** **NE:** Not established. **ACGIH:** American Conference of Government Industrial Hygienists; **TWA:** Time-Weighted Average (over an 8-hour work day); **STEL:** Short-Term Exposure Limit (15-minute average, no more than 4-times daily and each exposure separated by one-hour minimally); **C:** Ceiling Limit (concentration not to be exceeded in a work environment). **PEL:** Permissible Exposure Limit. **NIOSH:** National Institute of Occupational Safety and Health; **REL:** Recommended Exposure Limit. **ppm:** Parts per Million. **mg/m³:** Milligrams per cubic meter. **mppcf:** Millions of Particles per Cubic Foot. **BEI:** Biological Exposure Limit.
- 9** **pH:** Scale (0 to 14) used to rate the acidity or alkalinity of aqueous solutions. For example, a pH value of 0 indicates a strongly acidic solution, pH of 7 indicates a neutral solution, and a pH value of 14 indicates an extremely basic solution. **FLASH POINT:** Temperature at which a liquid generates enough flammable vapors so that ignition may occur. **AUTOIGNITION TEMPERATURE:** Temperature at which spontaneous ignition occurs. **LOWER EXPLOSIVE LIMIT (LEL):** The minimal concentration of flammable vapors in air which will sustain ignition. **UPPER EXPLOSIVE LIMIT (UEL):** The maximum concentration of flammable vapors in air which will sustain ignition. ≈: Approximately symbol. **VOC:** Volatile Organic Compound.
- 11** **CARCINOGENICITY STATUS:** NTP: National Toxicology Program. IARC: International Agency for Research on Cancer. **REPRODUCTIVE TOXICITY INFORMATION:** Germ Cell Mutagenicity: Substance capable of causing chromosomal damage to cells. Embryotoxicity: Substance capable of damaging the developing embryo in an overexposed female. Teratogen: Substance capable of damaging the developing fetus in an overexposed female. Reproductive toxin: Substance capable of adversely affecting male or female reproductive organs or functions. **TOXICOLOGY DATA:** LD_{xx} or LC_{xx}: The Lethal Dose or Lethal Concentration of a substance which will be fatal to a given percentage (xx) of exposed test animals by the designate route of administration. This value is used to access the toxicity of chemical substances to humans. TD_{xx} or TC_{xx}: The Toxic Dose or Toxic Concentration of a substance which will cause an adverse effect to a given percentage (xx) of exposed test animals by the designate route of administration.
- 12** **EC50:** Effect Concentration (on 50% of study group); **BOD:** Biological Oxygen Demand. **TLM:** Threshold Limit, Median.
- 13** **RCRA:** Resource Conservation and Recovery Act. The regulations promulgated under this act under Act are found in 40 CFR, Sections 260 ff, and define the requirements of hazardous waste generation, transport, treatment, storage, and disposal. **EPA RCRA Waste Codes:** Defined in 40 CFR Section 261.
- 15** **NJ:** New Jersey. **PA:** Pennsylvania. **MA:** Massachusetts. **ND:** Not determined. **CERCLA:** Comprehensive Environmental Response, Compensation, and Liability Act. **SARA:** Superfund Amendments and Reauthorization Act.
- 16** **HAZARDOUS MATERIALS IDENTIFICATION SYSTEM RATING:** This is a rating system used by industry to summarize physical and health hazards to chemical users and was originally developed by the National Paint and Coating Association. 0 = No Significant Hazard. 1 = Slight Hazard. 2 = Moderate Hazard. 3 = Severe Hazard. 4 = Extreme Hazard.

16.4 DISCLAIMER



JAX Chemical Company makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of their own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by JAX Chemical Company as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does JAX Chemical Company assume any liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. JAX Chemical Company does not recommend blending this product with any other chemicals. All information, recommendations and data contained herein concerning this product are based upon information available at the time of writing from recognized technical sources.