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: DICHROIC BLACK**

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

- Acute Toxicity, Oral (Category 4); Acute Toxicity, Inhalation (Category 4); Skin Corrosion/Irritation (Category 2); Eye Damage/Irritation (Category 2A); Respiratory Sensitization (Category 1); Skin Sensitization (Category 1); Carcinogenicity (Category 2); Reproductive Toxicity (Category 1B); Specific Target Organ Toxicity – repeated exposure, inhalation (Category 1, lungs).

2.2 LABEL ELEMENTS

- **Hazard Pictograms:**
- **Signal Word:** DANGER
- **Hazard Statements:** Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to lungs through prolonged or repeated exposure if inhaled.
- **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 mists/vapors/spray. Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in well-ventilated environment. Contaminated work clothing must not be allowed of workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation, wear respiratory protection.

SECTION 2: HAZARDS IDENTIFICATION (Continued)

- **Response:** IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/ physician if you feel unwell. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/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 or attention. IF exposed or concerned: Get medical advice/ attention. Take off contaminated clothing and wash it before reuse.
- **Storage:** Store locked-up.
- **Disposal:** Dispose of contents/ container to an approved waste disposal plant.

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 INDENTIFICATION OF HAZARDOUS SUBSTANCES IN PRODUCT

COMPONENT	CAS NUMBER	**GHS CLASSIFICATION**	**% (w/w)**
Fluorboric Acid	16872-11-0	Skin corrosion (Category 1B)	Less than 0.05%
Selenious Acid	7783-00-8	Acute toxicity, oral (Category 3); Acute toxicity, inhalation (Category 3); Aquatic toxicity, acute (Category 1); Aquatic toxicity, chronic (Category 1)	Less than 1.0%
Nickel (II) Sulfate Heptahydrate *("Nickel Sulfate" in the remainder of this document)*	10101-98-1	At concentrations between 1-2%: Acute toxicity, Oral (Category 4); Acute toxicity, Inhalation (Category 4); Skin irritation (Category 2); Respiratory sensitization (Category 1); Skin sensitization (Category 1); Carcinogenicity (Category 2); Reproductive toxicity (Category 1B); Specific target organ toxicity - repeated exposure, Inhalation (Category 1, lungs); Acute aquatic toxicity (Category 3; M = 1); Chronic aquatic toxicity (Category 3; M = 1),	1-2 %
Sodium Chloride	7647-14-5	Not Established	10-15
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	**TREATMENT**
Eye Contact:	Flush with copious amounts of water for 15 minutes. "Roll" eyes during flush. Seek medical attention immediately.
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 or there is skin tissue damage.
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.

SECTION 4: FIRST AID MEASURES (Continued)

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

- **ACUTE HEALTH EFFECTS:**

AREA EXPOSED	EFFECTS
Eye Contact:	Can cause serious irritation of the eyes. Contact with the eyes can cause pain, redness, and tearing.
Skin Contact:	Can cause skin irritation. Contact with skin can cause pain and redness.
Inhalation:	May be irritating to the respiratory system; inhalation of sprays, mists, and vapors can cause coughing, nasal congestion and sore throat.
Ingestion:	May be irritating to the tissues of the digestive system, Ingestion can cause nausea, vomiting, diarrhea and pain.

- **CHRONIC HEALTH EFFECTS:** This product can cause allergic skin or respiratory reactions upon repeated over-exposures. Inhalation of the sprays, mists, or aerosols of this product may also cause damage to the lungs and tissues of the respiratory system.
- **TARGET ORGANS:** Skin, eyes, and respiratory system.

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	DESCRIPTION FOR PRODUCT
Decomposition:	Generates extremely irritating vapors and selenium oxides, as well as compounds containing nitrogen, nickel, sulfur, fluorine, and boron.
Incompatibilities:	See Section 10 (Reactivity and Stability).
Explosion Sensitivity to Mechanical Impact:	Not applicable.
Explosion Sensitivity to Static Discharge:	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.

SECTION 6: ACCIDENTAL RELEASE MEASURES (Continued)

- **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-incidental 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 unlikely event of a multi-container release of the product**,** and there is no other hazardous condition in the area, the use of an air-purifying respirator with high efficiency particulate filter, face-shield, safety glasses, and double gloves (e.g. nitrile over latex gloves), and body protection is recommended if splashes/sprays/mists can be generated during clean-up or the concentration of vapors is high. Use Self-Contained Breathing Apparatus if concentration of oxygen is less than 19.5% or is unknown.
- **RESPONSE PROCEDURES FOR ANY RELEASE:** Absorb spilled liquid with polypads or other suitable absorbent materials. Rinse contaminated items and area thoroughly.

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:** Store locked up. Keep container dry. Use non-metal containers or metal containers with corrosion-resistant lining. 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
Fluoroboric Acid (as Fluorides)	TWA= 2.5 mg/m^3	TWA= 2.5 mg/m^3	TWA= 2.5 mg/m^3	NE
Selenious Acid (Selenium compounds, as Se).	TWA= 0.2 mg/m^3	TWA= 0.2 mg/m^3	TWA= 0.2 mg/m^3	NE
Nickel Sulfate (as Nickel, soluble compounds)	TWA= 0.1 mg/m^3	1 mg/m3, as Ni	TWA= 0.0.015 mg/m^3	NE
Sodium Chloride	NE	NE	NE	NE

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS:** The following BEIs have been established for the components of this product:
    - **Fluoroboric Acid (as Fluorides):** Fluorides in urine = 2 mg/L prior to shift or 3 mg/L at end of shift; (Repeated measurements recommended.)

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:**

PROPERTY	DATA
State:	Liquid.
Color:	Green.
Odor:	Odorless.
Odor Threshold:	Not determined.
pH:	2.2

- **PHYSICAL DATA:**

PROPERTY	DATA
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 Pressure:	Not determined.
Vapor Density	Not determined.
Relative Density (Density):	Approximately 1.0
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 INCOMPATIVLE MATERIALS

- This product is not compatible with strong oxidizers, strong bases, powdered metals and water-reactive materials.

10.5 HAZARDOUS DECOMPOSITION PRODUCTS

- Thermal decomposition of this product generates selenium oxides, as well as compounds containing nitrogen, nickel, sulfur, fluorine, and boron.

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) > 300 mg/kg
  - Acute Toxicity Estimate (Dermal) > 2000 mg/kg
  - Acute Toxicity Estimate (Inhalation) > 10 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).

SELENIOUS ACID
LD50 (Intravenous-Mouse) 11 mg/kg
LDLo (Oral-Rat) 25 mg/kg
LDLo (Intraperitoneal-Rat) 10 mg/kg
TDLo (Subcutaneous-Rabbit) 4800 ug/kg/14 days-intermittent: Behavioral: food intake (animal); Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol); Nutritional and Gross Metabolic: weight loss or decreased weight gain

FLUOROBORIC ACID
LD50 (Oral, Rat) 100 mg/kg

NICKEL SULFATE
LD50 (Oral, Rat) 264 mg/kg

SODIUM CHLORIDE
LD50 (Oral, Rat) 3000 mg/kg
LD_{50} (Skin, Rabbit) > 10000 mg/kg
LC_{50} (Inhalation, Rat) > 42000 mg/m^3

- **DEGREE OF IRRITATION:** The product causes serious eye irritation and skin irritation.
- **SENSITIZATION:** Nickel Sulfate, a component of this product, may cause allergic skin or respiratory reactions after repeated exposure.
- **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:** Causes serious eye irritation.
  - **Skin:** Causes skin irritation.
  - **Inhalation:** May cause irritation of the respiratory system upon inhalation of mists/sprays/aerosols.
  - **Ingestion:** May cause serious irritation of the digestive system if swallowed.

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
FLUOROBORIC ACID (as Fluoride)	IARC-3: Unclassifiable as to Carcinogenicity in Humans	NO	NO	NO	TLV-A4: Not Classifiable as a human carcinogen
SELENIOUS ACID	IARC-3: Unclassifiable as to Carcinogenicity in Humans	NO	NO	NO	EPA-D: Not classifiable as to human carcinogenicity.
NICKEL SULFATE	IARC-1 Known to be a Human Carcinogen	NTP-1 Known to be a Human Carcinogen	Carcin-ogen	NO	MAK: Substances that can cause cancer in man.

SECTION 11: TOXICOLOGICAL INFORMATION (Continued)

- **REPRODUCTIVE TOXICITY INFORMATION:** Nickel sulfate may potentially cause harm to the unborn. Human reproductive effects for sodium chloride have also been reported, but they are related to dietary exposures.
- **MUTAGENIC EFFECTS:** The components of this product are not reported to cause mutagenic effects under typical circumstances of exposure. The following mutagenicity data have been reported for components of this product under laboratory conditions:
  - **NICKEL SULFATE:** Germ cell mutagenicity: - Genotoxicity in vitro; Hamster/Other cell types/ Morphological transformation.
  - **SODIUM CHLORIDE:** In experimental animals, sodium chloride has caused delayed effects on newborns, has been fetotoxic, and has caused birth defects and abortions in rats and mice
- **SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE:** Not applicable.
- **SPECIFIC TARGET ORGAN TOXICITY – REPEATED EXPOSURE:** Due to the presence of selenious acids, exposure to large quantities for prolonged period of time may cause damage to organs (liver, kidneys) through prolonged or repeated exposure. Due to the presence of Nickel Sulfate, repeated overexposures via respiration can cause damage to the lungs.
- **ASPIRATION HAZARD:** Not applicable.

11.3 OTHER USEFUL TOXICOLOGY INFORMATION

- **TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None known.
- **ADDITIONAL TOXICOLOGY:** Selenious acid is the most toxic form of selenium, ingestion is almost invariably fatal. Stupor, respiratory depression, hypotension, and death can result several hours post ingestion. Severe hypotension develops secondary both to decreased contractility from a toxic cardiomyopathy and to inappropriately low peripheral vascular resistance. Laboratory abnormalities include thrombocytopenia, moderate hepatorenal dysfunction, and elevated serum kinase levels.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ENVIRONMENTAL TOXICITY

- Based on available data, this product is anticipated to be harmful to contaminated terrestrial plants or animals.
- Based on available data, this product is anticipated to be harmful to contaminated aquatic plants or animals.
- Based on the concentration of components, the product is classified as Acute aquatic toxicity (Category 3); Acute aquatic toxicity (Category 3).
- The following aquatic toxicity data are available for components of this product

NICKEL SULFATE
EC50 (freshwater algae) = 0.75 mg/L for 72 hours
LC50 (Brachydanio rerio) > 100 mg/L for 24 hours
LC50 (Oncorhynchus mykiss) = 1.28 mg/L for 96 hours)
EC50 (water flea) = 1 mg/L for 48 hours

SODIUM CHLORIDE
LC50 (Ceriodaphnia dubia) = 280000 ug/L for 7 day /total/
EC50 (Ceriodaphnia dubia); Conditions: freshwater; renewal; Concentration: (95% confidence limit: > 1500 to < 2000 mg/L) for 192 hours; Effect: reproduction, progeny /total/

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

- The following data are available for components of this product:
  - **SELENIOUS ACID:** Bioconcentration: It is known that selenium accumulates in living tissues. For example, the selenium content of human blood is about 0.2 ppm. This value is about 1,000 times greater than the selenium found in surface waters on the planet earth. It is clear that the human body does accumulate or concentrate selenium with respect to the environmental levels of selenium. Selenium has been found in marine fish meal at levels of about 2ppm. This amount is around 50,000 times greater than the selenium found in seawater. It seems obvious that marine fish are efficient concentrators of selenium.
  - **FLUOROBORIC ACID:** Fluorides can bioaccumulate, impacting bone and dentition.

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 TREAMENT 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:** D010; 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 TRANSPORATION 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
UN3264	Corrosive liquids, acidic, inorganic, n.o.s. (selenious acid)	III	8		154	Not applicable.

- **LIMITED QUANTITY EXCEPTIONS [49 CFR 173.154(b)]**: Limited quantities for Class 8, Packing Group III materials have inner packagings not over 5.0 L [1.3 gal] (liquids) net capacity each, packed in strong outer packaging.
- **CANADIAN TRANSPORTATION INFORMATION**: This product is regulated by Transport Canada as dangerous goods under Canadian transportation standards. Refer to above information.
- **IATA DESIGNATION**: This product is regulated as dangerous goods by the International Air Transport Association.

Basic Description	Passenger and Cargo Aircraft				Cargo Aircraft Only	
	Limited Quantity		Packing Instruction	Max. Qty per PKG	Packing Instruction	Max. Qty per PKG
	Packing Instruction	Max. Qty per PKG				
UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (selenious acid), 8, PGIII	Y841	1L	852	5L	856	60L

- **IMO DESIGNATION**: This product is regulated as dangerous goods by the International Maritime Organization.

Basic Description	Limited and Excepted Quantity Provisions		Packing		EmS
	Limited Quantities	Excepted Quantities	Instructions	Provisions	
UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (selenious acid), 8, PGIII	5L	E1	P001, LP01	--	FA-SB

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**: Selenious Acid = 454/4540 kg (1000/10,000 lb).
- **U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21** Skin Corrosion/Irritation; Eye Damage/Irritation; Acute Toxicity; Respiratory/Skin Sensitization; Carcinogenicity; Reproductive Toxicity; Specific Target Organ Toxicity.
- **U.S. CERCLA REPORTABLE QUANTITY (RQ):** Selenious Acid Solution = 10 lb. (4.45 kg). Nickel Sulfate = 45.5 kg (100 lb.).
- **U.S. SARA 313:** Selenious Acid and Nickel Sulfate are subject to the reporting requirements of SARA Title III Section 313.
- **U.S. TSCA INVENTORY STATUS:** All components of this product are listed on the TSCA Inventory.
- **US CLEAN AIR ACT (SECTION 112r):** Not applicable.

15.2 OTHER IMPORTANT U.S. STATE REGULATIONS FOR COMPONENTS

- **CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS:** This product contains Nickel Sulfate, a chemical known to the state of California to cause cancer. The GHS label provides adequate occupational exposure warning, per California regulations (Article 6 CCR 25606).
- **STATE HAZARDOUS SUBSTANCES LIST:**

COMPONENT	NJ Right to Know	PA Right to Know	MA Right to Know	OTHER
Fluorboric Acid	LISTED	LISTED	NOT LISTED	ND
Selenious Acid	LISTED	LISTED	LISTED	ND
Nickel Sulfate	LISTED	LISTED	LISTED	ND
Sodium Chloride	LISTED	LISTED	NOT 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) PRIORITIES SUBSTANCES LISTS:** The components of this product are not on the CEPA Priority Substances Lists.

SECTION 16: OTHER INFORMATION

16.1 INDICATION OF CHANGE

- **DATE OF REVISION:** March 7, 2019
- **SUPERCEDES**: January 13, 2017
- **CHANGE INDICATED:** Review and update of regulatory information as needed (e.g., US SARA Hazard Categories).

16.2 HAZARDOUS MATERIALS SYSTEM RATING

Health	**2***
Flammability	**0**
Physical Hazard	**0**
Protective Equipment	**C/D**

- Carcinogenicity and reproductive toxicity.

(Personal Protective Equipment Rating: Occupational Use situations: C: Body protection; gloves/safety goggles-safety glasses with side shields; D: Add face-shield if splashes or sprays are anticipated. Selection based on use. See section 8 for details.)

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/m^3: 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

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