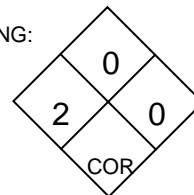


HERITAGE SYSTEMS, INC

NFPA RATING:

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



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **HSI-366 or 8666**
PRODUCT DESCRIPTION: *Closed Loop Treatment*

COMPANY INFORMATION:
Chemicals Inc.
13560 Colombar Court
Fontana, California 92337
Non-emergency: 951-681-9697

Revised: October 30, 2006

24-HOUR EMERGENCY TELEPHONE:
CHEMTREC 800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

| COMPONENT | CAS # | HAZARD | WT % | ACGIH | | OSHA | |
|------------------|-----------|-----------|---------|----------------------|------|----------------------|---------------------|
| | | | | TLV _(TWA) | STEL | PEL _(TWA) | STEL |
| Sodium molybdate | 7631-95-0 | Irritant | 10 – 15 | 5 mg/m ³ | NE | 5 mg/m ³ | 5 mg/m ³ |
| Sodium nitrite | 7632-00-0 | Hazardous | 1 – 5 | NE | NE | NE | NE |

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous and/or present at amounts below reportable limits.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Clear, colorless liquid

Sweet odor

WARNING: Product is considered a corrosive material. May cause burning of eyes and irritation of skin. Harmful if swallowed. May cause severe irritation to mouth, throat, esophagus and stomach. Avoid contact. Wear a face shield, gloves and protective apron when handling. Wash thoroughly after handling.

*** In the event of incident, please refer to Emergency Response Guide 154. ***

POTENTIAL HEALTH EFFECTS Eye contact Skin contact Ingestion Inhalation

EYE CONTACT: Exposure to liquid product may cause severe irritation to eyes, and possibly burns or eye damage. Symptoms of exposure may include redness, itching, swelling, tearing or pain. Effects of contact may be delayed. Avoid contact.

SKIN CONTACT: Exposure to liquid product may cause moderate to severe irritation to skin, and possible burns. Symptoms of exposure may include redness, itching, swelling or pain. Effects of contact may be delayed. Avoid contact.

INGESTION: Exposure to liquid product may cause moderate to severe irritation to inner linings of mouth, esophagus and gastrointestinal tract, and possible burns. Product is considered moderately toxic. Do NOT ingest.

INHALATION: Inhalation is not believed to be a likely route of exposure.

CHRONIC: Effects of chronic exposure are not expected to differ from the above-mentioned contact.

CARCINOGENS: This product and its components are not listed on NTP, IARC or OSHA lists as cancer-causing agents. Sodium molybdate is listed in ACGIH Appendix A as a Group A3 (confirmed animal) carcinogen.

AGGRAVATION OF PRE-EXISTING CONDITIONS: There are no known medical conditions that would be possibly aggravated by exposure to this product.

4. FIRST AID MEASURES

EYE CONTACT: If this product contacts the eyes, immediately flush eyes with plenty of clean running water for at least fifteen (15) minutes, lifting the upper and lower eyelids occasionally. Remove contact lenses if worn. Seek medical attention if irritation persists.

SKIN CONTACT: If this product contacts the skin, immediately flush the affected area with soap and water for at least fifteen (15) minutes. If the product penetrates the clothing, promptly remove the contaminated clothing or shoes, and flush the affected area as described. Seek medical attention if irritation persists.

INGESTION: If this product is ingested, drink small amounts of water and seek medical attention promptly. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: If this product is inhaled and symptoms occur, move the exposed person to fresh air promptly. Seek medical attention if symptoms persist.

NOTES TO PHYSICIAN: Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

| | |
|----------------------------------|--------------------------|
| FLASH POINT: | None – aqueous solution. |
| FLAMMABLE LIMITS: | NA |
| AUTOIGNITION TEMPERATURE: | NA |

EXTINGUISHING MEDIA: Use water, foam, dry chemical or carbon dioxide to extinguish fire.

FIRE/EXPLOSION HAZARD: Dried residue can stimulate the combustion of organic materials.

FIRE FIGHTING EQUIPMENT: Fire fighters should wear full protective equipment, including a self-contained breathing apparatus.

SPECIAL PROCEDURES: Use water to cool containers exposed to a fire.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of nitrogen. May leave a caustic residue.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Use proper personal protection (refer to Section 8).

ENVIRONMENTAL PRECAUTIONS: Run off from fire control or dilution water may cause pollution. Keep out of drains, municipal sewers, open bodies of water and water course.

CLEAN-UP METHODS: Safely stop source of spill. Clean up spills immediately. Restrict non-essential personnel from the area. Wear protective clothing, goggles and respirator if ventilation is not adequate.

Dike spill area and soak up material with sand or other absorbent. Place into chemical waste container for disposal according to local, state or federal regulations. Flush spill area with water.

7. HANDLING AND STORAGE

HANDLING: Use proper personal protection when handling (refer to Section 8). Use under well-ventilated conditions. Avoid contact with eyes, skin and clothing. Avoid breathing vapors and mists. Avoid prolonged or repeated contact. Do NOT ingest. Wash thoroughly after handling. Rinse container before disposal.

SHELF LIFE: The recommended shelf life is two (2) years. It is recommended that products be retested if stored for more than two (2) years. Under ideal storage conditions, the shelf life is almost indefinite.

STORAGE TEMPERATURE: The recommended storage temperature is above 32°F, preferably at room temperature (70°F).

GENERAL: Store closed containers in a cool, dry, well-ventilated area away from incompatible materials. This product is stable under normal conditions of handling and storage. Avoid cold temperatures.

8. EXPOSURE CONTROLS / PERSONAL PROTECTIVE EQUIPMENT

Please refer to Section 2 for applicable exposure limits.

EYE PROTECTION: To avoid contact with eyes, use chemical splash goggles and a face shield. Eye wash station should be available in the work area.

HAND PROTECTION: Use rubber or plastic gloves to minimize skin contact.

BODY PROTECTION: Use a rubber apron to minimize contact. Rubber boots are recommended. Full drench shower should be available in the work area.

RESPIRATOR: Use of respirator protection is not generally required. However, if exposure is above the stated limits or ventilation is inadequate, use a NIOSH approved acid gas/organic vapor respirator to reduce potential for inhalation exposure. When using respirator cartridges, they must be changed frequently to assure breakthrough exposure does not occur.

VENTILATION: General mechanical ventilation is recommended for enclosed areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---------------------------------|-------------------------|---------------------------------|---------------|
| Appearance: | Clear, colorless liquid | Boiling Point: | 100°C / 212°F |
| Odor: | Sweet | Freezing Point: | 0°C / 32°F |
| Specific Gravity @ 68°F: | ~ 1.13 | Vapor Pressure: | 23.75 mmHg |
| pH: | ~ 12.7 | Vapor Density (air = 1): | ND |
| Water Solubility: | Complete | VOC Content: | Non-volatile |

10. STABILITY AND REACTIVITY

GENERAL STABILITY: This product is stable at ambient temperatures and atmospheric pressures.

INCOMPATIBLE MATERIALS: Strong acids, strong reducing agents, ammonia salts, amines, phthalic acid and cyanides.

HAZARDOUS POLYMERIZATION: Hazardous polymerization is not expected to occur under normal temperatures and pressures.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen. May leave a caustic residue.

11. TOXICOLOGICAL INFORMATION

| | <u>Product 8666</u> | <u>Molybdate</u> | <u>Nitrite</u> |
|--|---------------------|--------------------|--------------------|
| Eye irritation: | Severe to corrosive | None to slight | Slight to moderate |
| Skin irritation: | Severe to corrosive | None to slight | None to slight |
| Inhalation irritation: | None to slight | Slight to moderate | None to slight |
| Oral LD₅₀, Rat: | > 1270 mg/kg | 4233 mg/kg | 120 mg/kg |
| Dermal LD₅₀, Rabbit: | > 589 mg/kg | 2000 mg/kg | NDA |
| Inhalation LC₅₀, Rabbit: | NDA | 2 mg/l | 1.45 mg/l |
| Other toxicological data: | NA | See below | See below |

Molybdate: [Oral] Acute high dose in animals have caused dyspnea, anorexia, colic, trembling, and incoordination. Listlessness, anemia, and deformities of gout, uricemia, and xanthine oxidase activity. In animals, molybdenum may interfere with copper metabolism. [Inhalation] Acute exposure may cause respiratory tract irritation. Chronic exposure of workmen in a molybdenum copper plant produced liver dysfunction with hyperbilirubinemia. [Medical Conditions Aggravated by Exposure (at increased risk from exposure)] Persons with pre existing respiratory, kidney, or blood disorders or gout. May be excreted in breast milk. The levels of copper, sulfur and zinc in the diet may have an effect on toxicity.

Nitrite: Tests in animals demonstrate no carcinogenic activity, or reproductive or developmental toxicity. Sodium nitrite appears to cross the placenta causing methemoglobinemia in the fetus after administration to the dam. In some tests, but not in others, the compound produced genetic damage in bacterial and mammalian cell cultures, as well as in tests in animals. It does not produce heritable genetic damage.

12. ECOLOGICAL INFORMATION

| | <u>Product 8666</u> | <u>Molybdate</u> | <u>Nitrite</u> |
|--|---------------------|------------------|----------------|
| 96 hr LC₅₀, Rainbow trout: | > 7600 mg/l | 7600 mg/l | 0.19 mg/l |
| 48 hr LC₅₀, Daphnia magna: | > 945 mg/l | 330 mg/l | 66 mg/l |
| 72 hr EC₅₀, Algae: | > 185 mg/l | 100 mg/l | NDA |

13. DISPOSAL CONSIDERATIONS

US EPA RCRA Status: This product is considered to be a hazardous waste.
US EPA RCRA Hazardous waste code: D002

Do NOT dump into any sewers, on the ground or into any body of water. Rinse containers before disposal. Since emptied containers contain product residue, follow label warnings even after container is emptied. Dispose in accordance with all applicable federal, state and local laws and regulations.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT
Proper Shipping Name: Corrosive Liquid, Basic, Inorganic, n.o.s., (Sodium Nitrite Solution)
Hazard Class: 8
Hazard Identification Number: UN3266
Packing Group: PGII
Transport Label: Corrosive

15. REGULATORY INFORMATION

| Components: | <u>Molybdate</u> | <u>Nitrite</u> |
|--------------------------------------|------------------|----------------|
| <u>Carcinogenic Potential</u> | | |
| Regulated by OSHA: | No | No |
| Listed on NTP Report: | No | No |
| Listed by IARC / Group: | No | No |
| ACGIH Appendix A / Group: | Listed / A3 | Not Listed |

US EPA Release Reporting

CERCLA (40 CFR 302):

| | | |
|----------------------------|------------|----------------|
| Listed substance: | Not listed | Sodium nitrite |
| Reportable quantity: | NA | 100 lbs. |
| Category: | NA | NDA |
| RCRA waste number: | NA | NDA |
| Unlisted substance: | NA | NA |
| Reportable quantity: | NA | NA |
| Characteristic: | NA | NA |
| RCRA waste number: | NA | NA |

SARA TITLE III

Section 302 & 303 (40 CFR 355):

| | | |
|--------------------------|------------|------------|
| Listed substance: | Not listed | Not listed |
| Reportable quantity: | NA | NA |
| Planning threshold: | NA | NA |

Section 311 & 312 (40 CFR 370):

| | | |
|---------------------|-------|-----------------------|
| Hazard categories: | Acute | Acute, fire, reactive |
| Planning threshold: | NDA | NDA |

Section 313 (40 CFR 372):

| | | |
|-------------------------------|------------|----------------|
| Listed toxic chemical: | Not listed | Sodium nitrite |
| Reporting threshold: | NA | NA |

US TSCA

| | | |
|------------------------------------|-----|-----|
| Listed/Exempt (40 CFR 710): | Yes | Yes |
|------------------------------------|-----|-----|

CA PROP 65

| | | |
|---------------------|----|----|
| Carcinogen: | No | No |
| Reproductive toxin: | No | No |

16. OTHER INFORMATION

HMIS Rating

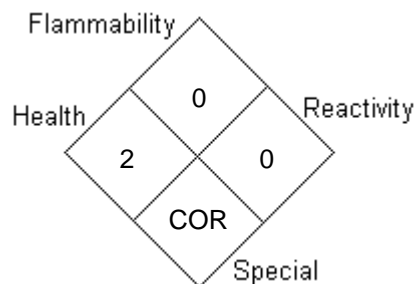
| | |
|--------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 0 |
| REACTIVITY | 0 |
| PROTECTION | D |

D = Face shield, gloves, protective apron

KEY

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal
- ACID = Acid
- ALK = Alkali
- COR = Corrosive
- OX = Oxidizer
- W = Use NO WATER

NFPA Rating



Legend:

| | | | |
|------------|---|-----------------|---|
| ACGIH: | American Conference of Governmental Industrial Hygiene | NE: | Not established |
| A1: | Confirmed human carcinogen | NFPA: | National Fire Protection Association |
| A2: | Suspected human carcinogen | NIOSH: | National Institute for Occupational Safety and Health |
| A3: | Confirmed animal carcinogen | NTP: | National Toxicology Program |
| CAS #: | Chemical Abstract Service Registry number | OSHA: | Occupational Safety and Health Administration |
| CERCLA: | Comprehensive Environmental Response Compensation and Liability Act | PEL: | Permissible Exposure Limit |
| DOT: | Department of Transportation | RCRA: | Resource Conservation and Recovery Act |
| EPA: | Environmental Protection Agency | REL: | Recommended Exposure Limit |
| HMS: | Hazardous Materials Identification System | SARA TITLE III: | Superfund Amendments and Reauthorization Act |
| IARC: | International Agency for Research on Cancer | STEL: | Short Term Exposure Limit (15 minute Time Weighted Average) |
| Group 1: | Carcinogenic to humans | TLV: | Threshold Limit Value |
| Group 2A: | Probably carcinogenic to humans | CEIL (C): | Ceiling Exposure Limit |
| Group 2B: | Possibly carcinogenic to humans | TSCA: | Toxic Substance Control Act |
| Group 3: | Unclassified as carcinogenic to humans | TWA: | Time Weighted Average |
| NA or N/A: | Not applicable | VOC: | Volatile Organic Compound |
| ND: | Not determined | > / <: | Greater than / Less than |
| NDA: | No data available | ~: | Approximately |

This Material Safety Data Sheet is presented in good faith as an information source only. It should not be taken as an expressed or implied warranty or guarantee for which the Company assumes legal responsibility. While the Company believes the information contained herein is accurate and compiled from sources believed to be reliable, it is the responsibility of the user to investigate and verify its validity. The Company does not accept liability for any loss or damage that may occur from the use of this information. The buyer or user accepts all responsibility of using, handling and disposing of the product in accordance with applicable federal, state and local rules, regulations and laws.