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## SAFETY DATA SHEET

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### Section 1: IDENTIFICATION

**Product Name:** Navy Aluminum Cleaner & Bright

**Product Code:** B4120

**MSDS Date:** May 14, 2015

Chemisphere Corporation  
2101 Clifton Ave  
St. Louis, MO 63139

**General Information:** 314-644-1300

**CHEMTREC:** 800-424-9300

### Section 2: HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW:

#### GHS Classification:

Acute toxicity, Inhalation (Category 2)

Acute toxicity, Dermal (Category 1)

Acute toxicity, Oral (Category 2)

Skin corrosion (Category 1A)

Serious eye damage (Category 1)

#### GHS Labeling



**Symbol:**

**Signal Word:** Danger

#### Hazard Statements:

Fatal in contact with skin

Fatal if swallowed

Fatal if inhaled

Causes severe skin burns and eye damage

Causes serious eye damage

#### Precautionary Statements:

##### **Prevention:**

Do not get in eyes, on skin, or on clothing.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe mist/vapors/spray.

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

Use only outdoors or in a well-ventilated area.

In case of inadequate ventilation, wear respiratory protection.

##### **Response:**

Wash with plenty of water.

Take off immediately all contaminated clothing and wash it before reuse.

IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash skin with plenty of water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.  
 If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center/doctor. Specific treatment is urgent.  
 If swallowed: immediately call a poison center/doctor. Rinse mouth. DO NOT induce vomiting.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

**Potential Health Effects:** See Section 11 for more information

This product contains carcinogens or potential carcinogens as listed.

This material contains components that are considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential Environmental Effects:** See Section 12 for more information.

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

No.	Component CAS REG. NO.	Amount %	OSHA		ACGIH	
			TWA	STEL	TWA	STEL
1	Hydrofluoric Acid CAS # 7664-39-3	1-30	3 ppm	6 ppm	0.5 ppm	2 ppm
2	Sulfuric Acid CAS # 7664-93-9	1-30	1 mg/m <sup>3</sup>	Not Available	0.2 Mg/m <sup>3</sup>	3 mg/m <sup>3</sup>

**Section 4: FIRST AID MEASURES**

**Emergency first aid procedures by route of exposure:**

- Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest. Oxygen or artificial respiration if needed. Victim to lie down in the recovery position, cover and keep him warm. Call a physician immediately. Take victim immediately to hospital.
- Ingestion:** Call a physician immediately. Take victim immediately to hospital. If victim is conscious. If swallowed, rinse mouth with water (only if the person is conscious). Give to drink a 1% aqueous calcium gluconate solution, Do NOT induce vomiting. Artificial respiration and/or oxygen may be necessary. If victim is unconscious but breathing: Oxygen or artificial respiration if needed.
- Skin:** Call a physician immediately. Take victim immediately to hospital. Take off contaminated clothing and shoes immediately. Wash off with plenty of water. Immediately apply calcium gluconate gel 2.5% and massage into the affected area using rubber gloves; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved. If fingers/finger nails are touched, even if there is no pain, dip them in a bath of 5% calcium gluconate for 15 to 20 minutes. Keep warm and in a quiet place.
- Eyes:** Immediate medical attention is required. Take victim immediately to hospital. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Rinse the eyes with a calcium gluconate 1 % solution in physiological serum (10 ml of calcium gluconate 10% in 90 ml of physiological serum). In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).

**Section 5: FIRE FIGHTING MEASURES**

- Flash Point:** Not Available
- Auto-ignition Temperature:** Not Available
- Flammability Classification:** Not Available

**Suitable Extinguishing Media:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water may be ineffective.

**Products of Combustion:**

Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, and oxides of sulfur.

**Fire Fighting Equipment/Instructions:**

Wear self-contained breathing apparatus and protective suit. - Fire fighters must wear fire resistant personnel protective equipment. - Wear chemical resistant over suit - Protect intervention team with a water spray as they approach the fire. Cool containers / tanks with water spray. Keep from any possible contact with water. Approach from upwind. Suppress (knock down) gases/vapors/mists with a water spray jet. After the fire, proceed rapidly with cleaning of surfaces exposed to the fumes in order to limit equipment damage.

HAZARD	HMIS	NFPA
Toxicity	3	3
Fire	0	0
Reactivity	0	0

**Section 6: ACCIDENTAL RELEASE MEASURES**

Eliminate all ignition sources (no smoking, flares, sparks or flames in the immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get water inside the containers.

**Personal Protection:** See section 8

Approach from upwind. Isolate the area. Wear self-contained breathing apparatus in confined spaces, in cases where the oxygen level is depleted, or in case of significant emissions. Prevent further leakage or spillage if safe to do so. Keep away from incompatible products. Suppress (knock down) gases/vapors/mists with a water spray jet. Avoid spraying the leak source. Protect intervention team with a water spray as they approach the fire.

**Environmental Precautions:** If the product contaminates rivers and lakes or drains inform respective authorities. Do not flush into surface water or sanitary sewer system.

**Method for Containment and Clean up:** Prevent product from entering drains. Dilute with water. Contact with water may produce heat release and presents risks of splashing. Keep in properly labelled containers. Keep in suitable, closed containers for disposal.

**Section 7: HANDLING AND STORAGE**

**Handling:**

- Clean and dry piping circuits and equipment before any operations.
- Keep away from water.
- Used in closed system
- Handle small quantities under a lab hood.
- Use only in well-ventilated areas.
- Use only equipment and materials which are compatible with the product.
- Keep away from incompatible products.
- Preferably transfer by pump or gravity.
- For further information, please contact:
- Manufacturer, importer, supplier

**Storage:**

- Keep container tightly closed.
- Keep in a cool, well-ventilated place.
- Keep away from heat.

- Keep away from incompatible products.
- Prevent spreading over a wide area (e.9. by containment or oil barriers).
- Information about special precautions needed for bulk handling is available on request.

#### Packaging material

- Plastic drum
- Polyethylene

#### Other information

- Provide tight electrical equipment well protected against corrosion.
- For personal protection see section 8.

## Section 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Engineering Controls:** Provide appropriate exhaust ventilation at machinery. - Apply technical measures to comply with the occupational exposure limits.

#### Personal Protective Equipment (PPE)

**Respiratory Protection:** In the case of dust or aerosol formation use respirator with an approved filter. Self-contained breathing apparatus in medium confinement/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection. Use only respiratory protection that conforms to international/ national standards.

- Use NIOSH approved respiratory protection.

**Eye/Face Protection:** Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Do not wear contact lenses.

**Hand Protection:** Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).- Protective gloves - impervious chemical resistant:- Suitable material: butyl-rubber

**Body:** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. impervious chemical resistant:- Suitable material: butyl-rubber

#### Other Protective Equipment:

Facilities storing or utilizing this material should be equipped with eyewash and safety shower facilities. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

See section 3 for exposure limits.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance, State</b>	Liquid
<b>Color</b>	Colorless
<b>Odor</b>	Not Available
<b>pH (Hydrofluoric Acid)</b>	<1
<b>Vapor Density (Hydrofluoric Acid)</b>	2.4 at 20°C (68°F)
<b>Boiling Point (Hydrofluoric Acid)</b>	106°C (223°F)
<b>Vapor Pressure (Hydrofluoric Acid)</b>	30.7 mbar
<b>Melting Point</b>	Not Available
<b>Freezing Point (Hydrofluoric Acid)</b>	-36.1°C (-33.0°F)
<b>Flash Point (See Section 5)</b>	
<b>Flammability Properties (See section 5)</b>	
<b>Solubility (in water)</b>	Soluble
<b>Density (Hydrofluoric Acid)</b>	1.16 at 25°C (77°F)
<b>Evaporation Rate</b>	Not Available
<b>Octanol/Water partition coefficient (Kow)</b>	Not Available

Auto-ignition temperature: (See Section 5)  
Decomposition temperature: Not Available

## Section 10: STABILITY AND REACTIVITY

**Stability:** This material is considered stable at ambient temperatures 70°C (21°C). Stable under recommended storage conditions. - Reacts violently with water. - Corrosive in contact with metals - Gives off hydrogen by reaction with metals. - Risk of violent reaction. - Risk of explosion.

**Incompatible Materials:** Metals/metal blends, hydrocarbons, inorganic bases, organic acids, organic bases, glass.

**Hazardous Decomposition:** Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, and oxides of sulfur

**Hazardous Reactions:** This product will not undergo polymerization.

## Section 11: TOXICOLOGICAL INFORMATION

### ACUTE EFFECTS:

#### Analysis LD50 (Sulfuric Acid CAS # 7664-93-9)

Oral Rat LD50: 2140 mg/kg  
Inhalation rat LC50: 510 mg/m<sup>3</sup>  
Standard Draize, eye rabbit, 250 u0g (severe)

#### Analysis LC50 (Hydrofluoric Acid CAS # 7664-39-3)

Acute: 1276 ppm 1 hour [Rat].  
342 ppm 1 hour [Mouse].  
1774 ppm 1 hour [Monkey].  
4327ppm 0.5 hours [Guinea pig].  
Acute oral toxicity - LD 100, guinea pig, 80 mg/kg (2% solution)  
Acute inhalation toxicity - 1C50, t h, rat,850 - 1,070 mg/m<sup>3</sup>

### CHRONIC EFFECTS:

Hydrofluoric Acid (7664-39-3)

**Carcinogenic Effects:** Not classified as a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Mutagenic Effects:** May affect genetic material

**Teratogenic Effects:** May cause adverse reproductive effects

**Developmental Toxicity:** Chronic exposure may entail dental or skeletal fluorosis

#### Target Organs: Inhalation

Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough. Breathing difficulties Aspiration may cause pulmonary edema and pneumonitis. At high concentrations, risk of hypocalcaemia with nervous problems (tetany) and cardiac arrhythmia. Repeated or prolonged exposure: sore throat, Nose bleeding, chronic bronchitis.

#### Eye contact

May cause permanent eye injury. May cause blindness.

Intoxication hazards by simultaneous inhalation of the product.

Symptoms: Burn, Lachrymation, Redness, Swelling of tissue.

#### Skin contact

Causes severe burns. Risk of shock.

In case of contact with fingernails, severe pain after several hours.

Risk of hypocalcaemia following the extent of the lesions. Intoxication

hazards by simultaneous inhalation of the product. Symptoms :  
Irritation, Redness, Swelling of tissue.

*Ingestion*

If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Risk of throat (o)edema and suffocation.

Risk of chemical pneumonitis from product inhalation.

risk of hypocalcaemia with nervous problems (tetany) and cardiac arrhythmia

Risk of convulsions, loss of consciousness, deep coma and cardiopulmonary arrest.

Symptoms: Nausea, Bloody vomiting, Abdominal pain, Diarrhea, Cough, Severe shortness of breath.

Sulfuric Acid (7664-93-9)

**Carcinogenic Effects:** The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong-inorganic acid mists containing sulfuric acid is carcinogenic to humans (group 1). IARC: 1 - Group 1: Carcinogenic to humans (Sulfuric acid)

**Mutagenic Effects:** Not Available.

**Teratogenic Effects:** Not Available

**Developmental Toxicity:** Not Available

**Target Organs:** Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Pulmonary edema. Effects may be delayed., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. Causes skin burns. Causes skin irritation.

**Eyes** Causes eye burns. Causes severe eye burns. Causes eye irritation.

**Ingestion** May be harmful if swallowed.

## **Section 12: ECOLOGICAL INFORMATION**

### **Ecotoxicity: (Sulfuric Acid LC50 CAS #7664-93-9)**

Flounder 100 to 330 mg/l/48 hr aerated water/Conditions of bioassay not specified; LC50 Shrimp 80 to 90 mg/l/48 hr aerated water /Conditions of bioassay not specified;

LC50 Prawn 42.5 ppm/48 hr salt water/Conditions of bioassay not specified.

LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h

### **Ecotoxicity: (Hydrofluoric Acid CAS # 7664-39-3)**

Fishes, Salmo gairdneri, 1C50, 96 h, 51 mg/l (Fluorides)

Crustaceans, Mysidopsis, EC50,96 h, 10.5 mg/l(Fluorides) Remarks: salt water

Crustaceans, Daphnia magna, EC50, 48 h, 97 mg/l (Fluorides) Remarks: fresh water

Fishes, Salmo gairdneri, 1C50, 21 Days,2.7 - 4.7 mg/l (Fluorides)

Crustaceans, Daphnia magna, NOEC, 21 Days, 3.7 mg/l (Fluorides)

Algae, Scenedesmus sp., EC50, 96 h, 43 mg/l (Fluorides)

## **Section 13: DISPOSAL CONSIDERATIONS**

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

## **Section 14: TRANSPORTATION INFORMATION**

**Proper Shipping Name:** Corrosive liquids, Acidic, Inorganic, n.o.s. (contains hydrofluoric acid, sulfuric acid)

**Hazard Class:** 8

**Identification No.:** UN3264

**Packing Group:** II

Label: Corrosive

## Section 15: REGULATORY INFORMATION

**TSCA Inventory** This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

**SARA 302/304** The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. Hydrofluoric Acid (CAS 7664-39-3) 100 lbs, and Sulfuric Acid (CAS 7664-93-9) 1000 lbs.

**CERCLA** The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Hydrofluoric Acid (CAS 7664-39-3) 100 lbs, Sulfuric Acid (CAS 7664-93-9) 1000 lbs.

**SARA 311/312 Hazard** The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

**SARA 313 Components** Hydrofluoric acid, Sulfuric acid

**California Proposition 65:** No components identified.

## Section 16: OTHER SUPPLEMENTAL INFORMATION

Prepared by: Chemisphere Corp. on 5/14/15

### Disclaimer:

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