**MATERIAL SAFETY DATA SHEET**

1. **IDENTIFICATION OF THE SUBATANCE/PREPARATION AND OF THE COMPANY/UNDERTAKIN**

FSUE «SDTB «Technolog»

Address: Russia, 192076, Saint-Petersburg, Sovetsky prospect. 33-а

Tel.: +7 (812) 244-73-73; +7 (812) 244-73-56 Fax: +7 (812) 700-36-37

E-mail: [supply@sktb-technolog.ru](file:///%5C%5CSERVER-SQL%5CShare_File%5C%D0%9A%D0%9E%D0%9C%D0%9C%D0%95%D0%A0%D0%A7%D0%95%D0%A1%D0%9A%D0%98%D0%99%20%D0%9E%D0%A2%D0%94%D0%95%D0%9B%5C%D0%A1%D0%90%D0%99%D0%A2%5C%D0%93%D0%B8%D0%B4%D1%80%D0%BE%D0%BA%D1%81%D0%B8%D0%BB%D0%B0%D0%BC%D0%B8%D0%BD%20%D0%B3%D0%B8%D0%B4%D1%80%D0%BE%D1%85%D0%BB%D0%BE%D1%80%D0%B8%D0%B4%5Csupply%40sktb-technolog.ru)

Website: <http://www.sktb-technolog.ru>

1. **COMPOSITION/INFORMATION ON INGREDIENTS**

**CHEMICAL NAME : Hydroxylamine Hydrochloride**

**CAS REGISTRY NUMBER: 5470-11-1**

**MOLECULAR FORMULA :** H3NO.HCl

1. **HAZARDS INDENTIFICATION**

**Potential Acute Health Effects:**

Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive, sensitizer), of eye contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Potential Chronic Health Effects:**

Slightly hazardous in case of skin contact (sensitizer).

**CARCINOGENIC EFFECTS**: Not available.

**MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

**TERATOGENIC EFFECTS**: Not available.

**DEVELOPMENTAL TOXICITY**: Not available.

The substance may be toxic to blood, cardiovascular system, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

1. **First aid Measures**

**Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Ingestion:**

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Inhalation:**

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

1. **Fire Fighting Measures**

**Extinguishing Media:**

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

**Flash Point:** CLOSED CUP: 152°C (305.6°F).

**Explosion Hazards in Presence of Various Substances:**

Slightly explosive in presence of open flames and sparks, of heat.

Non-explosive in presence of shocks.

1. **Accidental Release Measures**

**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill:**

Corrosive solid. Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

1. **Handling and Storage**

**Handling:**

Keep container dry. Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.Keep away from incompatibles such as oxidizing agents, combustible materials, organic materials, alkalis.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic Moisture sensitive.

1. **Exposure Controls, Personal Protection**

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protective Equipment**

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

1. **PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** Solid

**Appearance:** White to yellowish.

**Odor:** Odorless.

**pH:** 3.2 [Acidic.]

**Boiling Point:** 220 deg C @ 760 mmHg

**Melting Point:** Decomposition temperature: 151°C (303.8°F) -157 C

**Solubility:** Easily soluble in hot water.

**Specific Gravity/Density:** Density: 1.67 (Water = 1)

**Molecular Weight:** 69.49 g/mole

1. **Stability and Reactivity**

**Chemical Stability:** The product is stable.

**Incompatibilities with Other Materials:** Reactive with oxidizing agents, combustible materials,

organic materials, alkalis.

**Hazardous Polymerization:** Will not occur.

1. **ACUTE TOXICITY DATA**

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 141 mg/kg [Rat].

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects:

Skin: Depending on the duration of skin contact, it may cause reddening, discomfort, severe irritation, and possible chemical burns. Chemical burns result in blistering of the skin and possible scarring. Skin contact may cause allergic sensitization and reaction in susceptible individuals.

Eyes: Contact with eyes will cause severe irritation, pain, reddening, watering, and possibly burns, corneal damage and blindness.

Inhalation: It may be destructive to the tissues of the mucous membranes and upper respiratory tract. Symtoms may include respiratory tract irritation or burning sensation/burns of the mucous membranes, breathing difficulty, coughing, wheezing, shortness of breath, dyspnea (labored breathing), nasal congestion, laryngitis, sore throat, headache, nausea, vomiting, and Methemoglobinemia (a condition that affects the ability of the blood to carry oxygen), and cyanosis (blue color of the skin due to lack of oxygen). Inhalation of low levels can cause allergic sensitization and reaction in susceptible individuals. Severe inhalation over-exposure can be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may be delayed.

Ingestion: Harmful if swallowed. It can cause severe irritation and burns of the mouth, throat, esophagus, and other tissues of the digestive tract, nausea, vomiting, diarrhea. Conversion of hemoglobin to methemoglobin may also occur producing cyanosis (see acute inhalation). It may also cause a fall in blood pressure, ringing in the ears, shortness of breath, and affect behavior/central nervous system (headache, vertigo, convulsions). Ingestion of large volumes may cause coma and be fatal as a result of circulatory collapse.

Chronic Potential Health Effects:

Skin: Repeated or prolonged skin contact to low concentrations may cause dermatitis.

Inhalation: Repeated or prolonged inhalation may cause allergic reaction in sensitized individuals.

Inhalation/Ingestion: Prolonged or repeated exposure by inhalation or ingestion may affect metabolism (decreased appetite, weight loss), spleen, thyroid and blood/cause bone marrow damage(decreased leukocyte count, anemia). It may also cause liver, kidney, and bone marrow damage. This substance is a blood toxin. Prolonged or repeated exposure by ingestion or inhalation may also result in the conversion of hemoglobin to methemoglobin producing cyanosis.

Medical Conditions Aggravated by Exposure: Pre-existing disorders of the blood, skin, liver, kidneys, or lungs.

1. **ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

1. **DISPOSAL CONSIDERATIONS**

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

1. **TRANSPORT INFORMATION**

**DOT Classification:** Class 8: corrosive material

**Identification:** : Hydroxylamine hydrochloride : UN2923 PG: II

1. **REGULATORY INFORMATION**

**Federal and State Regulations:**

TSCA 8(b) inventory: Hydroxylamine hydrochloride

TSCA 8(a) CAIR: Hydroxylamine hydrochloride

**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No.

226-798-2).

Canada: Listed on Canadian Domestic Substance List (DSL).

China: Listed on National Inventory.

Japan: Listed on National Inventory (ENCS).

Korea: Listed on National Inventory (KECI).

Philippines: Listed on National Inventory (PICCS).

Australia: Listed on AICS.

1. **PERSONAL PROTECTIVE EQUIPMENT**

Eyes Wear safety glasses and chemical goggles if splashing is possible.

Skin Wear appropriate protective gloves to prevent skin exposure.

Clothing Wear appropriate protective clothing to minimize contact with skin.

Respirators Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

1. **OTHER INFORMATION**

It must be recognized that the physical and chemical properties of any product may not be fully understood and that new, possibly hazardous products may arise from reactions between chemicals. The information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.