



MATERIAL SAFETY DATA SHEET

SULFATE PENTAHYDRATE

SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name:
sulfate pentahydrate

Catalog Numbers:
9772-0000, 19772-0010, 19772-2500, 19773-0000, 19773-0010, 19773-0050,
42361-0000, 42361-0030, 42361-0050, 42361-5000

Synonyms:
Un Listes

Company Information:
LEONID CHEMICALS
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SECTION 2- COMPOSITION, INFORMATION ON INGREDIENTS

| | | |
|----------------|---|---------------------------------|
| CAS # | : | 7758-99-8 |
| Chemical Name | : | Copper(II) sulfate pentahydrate |
| % | : | >98% |
| EINECS# | : | 231-847-6 |
| Hazard Symbols | : | XN N |
| Risk Phrases | : | 22 36/38 |

SECTION 3- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Harmful if swallowed. Irritating to eyes and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Potential Health Effects

Eye:
Causes eye irritation. Causes redness and pain.

Skin:
Causes skin irritation. May be harmful if absorbed through the skin.

Ingestion:
Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation:
Causes respiratory tract irritation. May be harmful if inhaled.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis. May cause liver and kidney damage. May cause anemia and other blood cell abnormalities.

SECTION 4- FIRST AID MEASURES

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

Get medical aid. Wash mouth out with water.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

SECTION 5- FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible.

Extinguishing Media:

Use extinguishing media most appropriate for the surrounding fire.

SECTION 6- ACCIDENTAL RELEASE MEASURES

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container.

SECTION 7 - HANDLING and STORAGE

Handling:

Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing.

Storage:

Store in a cool, dry place. Store in a tightly closed container.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Personal Protective Equipment

Eyes:

Wear chemical goggles.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---------------------------|---|---------------------------|
| Physical State | : | Crystals |
| Color | : | blue |
| Odor | : | odorless |
| pH | : | 3.5-4.5 (5% aq. Solution) |
| Vapor Pressure | : | 7.3mmHg @25 deg C |
| Viscosity | : | Not available. |
| Boiling Point | : | Not available. |
| Freezing/Melting Point | : | 110 deg C(dec.) |
| Auto ignition Temperature | : | Not available. |
| Flash Point | : | Not available. |
| Explosion Limits, lower | : | Not available. |
| Explosion Limits, upper | : | Not available. |
| Decomposition Temperature | : | Not available. |
| Solubility in water | : | 320 g/l (20°C) |
| Specific Gravity/Density | : | Not available. |
| Molecular Formula | : | CuO4S.5H2O |
| Molecular Weight | : | 249.68 |

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

High temperatures, incompatible materials, exposure to moist air or water.

Incompatibilities with Other Materials:

Finely powdered metals, hydroxylamine, steel.

Hazardous Decomposition Products:

Oxides of sulfur, oxides of copper.

Polymerization:

Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 7758-99-8: G18900000

LD50/LC50:

CAS# 7758-99-8: Oral, mouse: LD50 = 43 mg/kg; Oral, rat: LD50 = 300 mg/kg; Skin, rat: LD50 = >2 gm/kg.

Carcinogenicity:

Copper(II) sulfate pentahydrate -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Other:

See actual entry in RTECS for complete information.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Fish: Rainbow trout: LC50: 0.1 - 2.5mg/l; 96 hFish: Goldfish: LC50: 0.1 - 2.5mg/l; 96 h

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

SECTION 14 - TRANSPORT INFORMATION

IATA

Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Hazard Class : 9

UN Numbe : 3077

Packing Group : III

IMO

Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Hazard Class : 9

UN Numbe : 3077

Packing Group : III

ID/ADR

Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Hazard Class : 9

UN Numbe : 3077

Packing Group : III

SECTION 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN N

Risk Phrases:

R 22 Harmful if swallowed.

R 36/38 Irritating to eyes and skin.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 22 Do not breathe dust.

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 7758-99-8: 2

United Kingdom Occupational Exposure Limits

United Kingdom Maximum Exposure Limits

Canada

None of the chemicals in this product are listed on the DSL/NDSL list.

CAS# 7758-99-8 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7758-99-8: OEL-ARAB Republic of Egypt:TWA 0.1 mg(Cu)/m³ (fume)

OEL-AUSTRALIA:TWA 0.2 mg(Cu)/m³ (fume)

OEL-AUSTRALIA:TWA 1 mg(Cu)/m³ (dust)

OEL-BELGIUM:TWA 0.2 mg(Cu)/m³ (fume)

OEL-BELGIUM:TWA 1 mg(Cu)/m³ (dust)

OEL-DENMARK:TWA 0.1 mg(Cu)/m³ (fume)

OEL-DENMARK:TWA 1 mg(Cu)/m³ (dust)

OEL-FINLAND:TWA 0.2 mg(Cu)/m³ (fume)

OEL-FINLAND:TWA 1 mg(Cu)/m³

OEL-FINLAND:TWA 1 mg(Cu)/m³ (dust)

OEL-FRANCE:TWA 0.2 mg(Cu)/m³ (fume)

OEL-FRANCE:TWA 1 mg(Cu)/m³;STEL 2 mg(Cu)/m³ (dust)

OEL-GERMANY:TWA 0.1 mg(Cu)/m³ (fume)

OEL-GERMANY:TWA 1 mg(Cu)/m³

OEL-GERMANY:TWA 1 mg(Cu)/m³ (dust)

OEL-HUNGARY:TWA 0.2 mg(Cu)/m³;STEL 0.4 mg(Cu)/m³ (dust)

OEL-INDIA:TWA 0.2 mg(Cu)/m³ (fume)

OEL-THE NETHERLANDS:TWA 0.2 mg(Cu)/m³ (fume)

OEL-THE NETHERLANDS:TWA 1 mg(Cu)/m³ (dust)

OEL-THE PHILIPPINES:TWA 1.0 mg(Cu)/m³ (fume) JAN9

OEL-POLAND:TWA 0.1 mg(Cu)/m³ (fume)

OEL-RUSSIA:STEL 0.5 ppm (1 mg(Cu)/m³) (dust) JAN9

OEL-SWEDEN:TWA 0.2 mg(Cu)/m³ (resp. dust)

OEL-SWEDEN:TWA 0.2 mg(Cu)/m³ (fume)

OEL-SWEDEN:TWA 1 mg(Cu)/m³ (total dust)

OEL-SWITZERLAND:TWA 0.1 mg(Cu)/m³;STEL 0.2 mg(Cu)/m³ (fume)

OEL-SWITZERLAND:TWA 1 mg(Cu)/m³;STEL 1 mg(Cu)/m³

OEL-THAILAND:TWA 0.1 mg(Cu)/m³ (fume)

OEL-THAILAND:TWA 1 mg(Cu)/m³

OEL-U

US FEDERAL

TSCA

CAS# 7758-99-8 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

SECTION 16 - ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

