Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name: Zinc chloride
Catalog Numbers: 19684-0000, 19684-0010, 19684-0050, 19894-0000, 19894-5000, 31817-0000, 31817-0100, 38013-0000, 38013-0050, 38013-0250, 42459-0000, 42459-5000, Z/0850/53, Z/0850/60, Z/0850/68, Z/0870/53, Z/0870/60
Synonyms: Zinc butter; Zinc dichloride; inorganic corrosive salt.
Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call:(01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#: 7646-85-7
Chemical Name: Zinc chloride
%: >97
EINECS#: 231-592-0

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful if swallowed. Causes burns. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Potential Health Effects
Eye: May cause irreversible eye injury. Contact with eyes may cause severe irritation, and possible eye burns.
Skin: Causes skin burns. Not expected to cause an allergic skin reaction.
Ingestion: Harmful if swallowed. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.
Inhalation: May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Irritation may lead to chemical pneumonitis and pulmonary edema. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. Causes respiratory tract irritation with possible burns.
Chronic: Chronic exposure may cause effects similar to those of acute exposure.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.
Skin:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion:
If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

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

Notes to Physician:
Treat symptomatically and supportively.

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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Substance is noncombustible. Contact with metals may evolve flammable hydrogen gas.

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. Avoid runoff into storm sewers and ditches which lead to waterways. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Discard contaminated shoes. Do not breathe dust or fumes.

Storage:
Store in a cool, dry place. Corrosives area. Do not store in metal containers. Keep containers tightly closed. Store protected from moisture.

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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits
CAS# 7646-85-7:
United Kingdom, WEL - TWA: 1 mg/m3 TWA (fume)
United Kingdom, WEL - STEL: 2 mg/m3 STEL (fume)
United States OSHA: 1 mg/m3 TWA (fume)
Belgium - TWA: 1 mg/m3 VLE (fume)
Belgium - STEL: 2 mg/m3 VLE (fume)
France - VME: 1 mg/m3 VME (fume)
Malaysia: 1 mg/m³ TWA (fume)
Netherlands: 1 mg/m³ MAC (smoke)
Spain: 1 mg/m³ VLA-ED (fume)
Spain: 2 mg/m³ VLA-EC (fume)

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Color: white
Odor: odorless
pH: 4 (100 g/l)
Vapor Pressure: Negligible
Viscosity: Not applicable.
Boiling Point: 732 deg C (1,349.60 F)
Freezing/Melting Point: 293 deg C (559.40 F)
Autoignition Temperature: Not applicable
Flash Point: Not applicable.

Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: Soluble in water.
Specific Gravity/Density: 2.91
Molecular Formula: ZnCl₂
Molecular Weight: 136.29

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures. Deliquescent (tending to absorb atmospheric water vapor and become liquid).

Conditions to Avoid:
Moisture, excess heat.

Incompatibilities with Other Materials
Strong bases.

Hazardous Decomposition Products
Hydrogen chloride, toxic fumes of zinc oxide.

Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 7646-85-7: ZH1400000
LD50/LC50:
RTECS: CAS# 7646-85-7: Oral, mouse: LD₅₀ = 329 mg/kg;
Oral, rat: LD₅₀ = 350 mg/kg;
Carcinogenicity:
Zinc chloride -
Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:
See actual entry in RTECS for complete information.
Section 12 - Ecological Information
Not available
Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.
Section 14 - Transport Information
IATA
Shipping Name: ZINC CHLORIDE, ANHYDROUS
Hazard Class: 8
UN Number: 2331
Packing Group: III
IMO
Shipping Name: ZINC CHLORIDE, ANHYDROUS
Hazard Class: 8
UN Number: 2331
Packing Group: III
RID/ADR
Shipping Name: ZINC CHLORIDE, ANHYDROUS
Hazard Class: 8
UN Number: 2331
Packing Group: III
USA RQ: CAS# 7646-85-7: 1000 lb final RQ; 454 kg final RQ
Severe Marine Pollutant
Section 15 - Regulatory Information
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: C N
Risk Phrases:
R 22 Harmful if swallowed.
R 34 Causes burns.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
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# 7646-85-7: 1
Canada
CAS# 7646-85-7 is listed on Canada's DSL List
US Federal
TSCA
CAS# 7646-85-7 is listed on the TSCA Inventory.
Section 16 - Other Information
MSDS Creation Date:
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility 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 event 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.