Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name Zinc Chloride, GR

Product Code ZX0065

Manufacturer EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

Effective Date 3/3/2003

For More Information Call
856−423−6300 Technical Service
Monday−Friday: 8:00 AM − 5:00 PM

In Case of Emergency Call
800−424−9300 CHEMTREC (USA)
613−996−6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym ZINC DICHLORIDE

Material Uses Analytical reagent.

Chemical Family Metal salt.

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
ZINC CHLORIDE	7646−85−7	100

Section 3. Hazards Identification

Physical State and Appearance Solid. (Deliquescent crystals solid. Granular solid.)

Emergency Overview
WARNING!
CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS.
HARMFUL IF INHALED OR SWALLOWED.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: LUNGS, RESPIRATORY TRACT, SKIN, EYES, EYE, LENS OR CORNEA.
MAY BE HARMFUL TO ENVIRONMENT IF RELEASED IN LARGE AMOUNTS.
VERY TOXIC TO AQUATIC ORGANISMS.

Routes of Entry Inhalation. Ingestion.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (corrosive). Causes eye burns.

Skin Hazardous in case of skin contact (corrosive). Skin contact produces burns.

Inhalation Hazardous in case of inhalation (lung corrosive).

Ingestion Hazardous in case of ingestion.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure:	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.

Section 4. 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. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. 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 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.

Section 5. Fire Fighting Measures

Flammability of the Product	Non−flammable.
Auto−ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	**Risks of explosion of the product in presence of static discharge:** No. **Risks of explosion of the product in presence of mechanical impact:** No.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and	Use appropriate tools to put the spilled solid in a convenient waste

Leak	disposal container.
Large Spill and Leak	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. Call for assistance on disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling	Do not ingest. Do not breathe dust. Keep container closed. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing.
Storage	Keep container in a cool, well−ventilated area.

Section 8. 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 Protection

Eyes	Splash goggles.
Body	Synthetic apron.
Respiratory	Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	Gloves.
Feet	Not applicable.

Protective Clothing (Pictograms)	
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self−contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	**Exposure Limits**
ZINC CHLORIDE	**Belgium Minister of Labour (Belgium, 1998).** VCD: 2 mg/m3 VL: 1 mg/m3 **SUVA (Switzerland, 1997). Skin** Kurzzeitsgrenzwerte: 0.2 mg/m3 MAK: 0.1 mg/m3 **DK−Arbejdstylsinet (Denmark, 1996).** GV: 0.5 mg/m3 **Tyterveyslaitos (Finland, 1998).** TWA: 1 mg/m3 **INRS (France, 1996).** VME: 1 mg/m3 **National Authority for Occupational Safety/Health (Ireland, 1999).** STEL: 2 mg/m3

OEL: 1 mg/m3
Arbeidsinspectie (Netherlands, 1999).
TGG 8 uur: 1 mg/m3
N−Arbeidstylsinet (Norway, 1996).
AN: 1 mg/m3
AFS (Sweden, 1996).
NGV: 1 mg/m3
EH40−OES (United Kingdom (UK), 1997).
STEL: 2 mg/m3
MEL: 1 mg/m3
ACGIH (United States, 1994).
STEL: 2 mg/m3 Form: Fume
TWA: 1 mg/m3 Form: Fume
NIOSH REL (United States, 1994).
STEL: 2 mg/m3 Form: Fume
TWA: 1 mg/m3 Period: 10 hour(s). Form: Fume
OSHA Final Rule (United States, 1989).
STEL: 2 mg/m3 Form: Fume
TWA: 1 mg/m3 Form: Fume

Section 9. Physical and Chemical Properties

Odor	Odorless.
Color	White.
Physical State and Appearance	Solid. (Deliquescent crystals solid. Granular solid.)
Molecular Weight	136.27 g/mole
Molecular Formula	Cl2−Zn
pH	Not available.
Boiling/Condensation Point	732.27°C (1350.1°F)
Melting/Freezing Point	282.83°C (541.1°F)
Specific Gravity	2.91 (Water = 1)
Vapor Pressure	Not available.
Vapor Density	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
LogKow	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Reactive with moisture.
Rem/Incompatibility	Not available.
Hazardous Decomposition	Not available.

Products	
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

RTECS Number:

Zinc Chloride	ZH1400000

Toxicity	Acute oral toxicity (LD50): 200 mg/kg [Guinea pig].
Chronic Effects on Humans	Not available.
Acute Effects on Humans	Hazardous in case of eye contact (corrosive). Causes eye burns. Hazardous in case of skin contact (corrosive). Skin contact produces burns. Hazardous in case of inhalation (lung corrosive). Hazardous in case of ingestion.
Synergetic Products (Toxicologically)	Not available.
Irritancy	Draize Test: Not available.
Sensitization	Not available.
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.
Toxicity to Reproductive System	Tests on laboratory animals for reproductive effects are cited in Registry of Toxic Effects on Chemical Substances (RTECS).
Teratogenic Effects	Not available.
Mutagenic Effects	Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).

Section 12. 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.

Section 13. Disposal Considerations

EPA Waste Number	Not available.
Treatment	Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification	Proper Shipping Name: ZINC CHLORIDE, ANHYDROUS Hazard Class: 8 UN number: UN2331 Packing Group: III RQ: 1000 lbs. (453.6 kg)
TDG Classification	Not available.

IMO/IMDG Classification	Proper Shipping Name: ZINC CHLORIDE, ANHYDROUS Hazard Class: 8 UN number: UN2331 Packing Group: III RQ: 1000
ICAO/IATA Classification	Not available.

Section 15. Regulatory Information

U.S. Federal Regulations

TSCA 8(b) inventory: ZINC CHLORIDE

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: ZINC CHLORIDE

SARA 311/312 MSDS distribution − chemical inventory − hazard identification: ZINC CHLORIDE: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313 toxic chemical notification and release reporting: ZINC CHLORIDE

Clean Water Act (CWA) 307: ZINC CHLORIDE

Clean Water Act (CWA) 311: ZINC CHLORIDE

Clean air act (CAA) 112 accidental release prevention: No products were found.

Clean air act (CAA) 112 regulated flammable substances: No products were found.

Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada)

Class D−1B: Material causing immediate and serious toxic effects (TOXIC).

Class D−2A: Material causing other toxic effects (VERY TOXIC).

CLASS E: Corrosive solid.

CEPA DSL: ZINC CHLORIDE

This product has been classiifed in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS

ZINC CHLORIDE 231−592−0

DSCL (EEC)

R34− Causes burns.

R50/53− Very toxic to aquatic organisms, may cause long−term adverse effects in the aquatic environment.

International Lists

Australia (NICNAS): ZINC CHLORIDE

Japan (MITI): ZINC CHLORIDE

Korea (TCCL): ZINC CHLORIDE

Philippines (RA6969): ZINC CHLORIDE

State Regulations	China: No products were found. Pennsylvania RTK: ZINC CHLORIDE: (environmental hazard, generic environmental hazard) Massachusetts RTK: ZINC CHLORIDE New Jersey: ZINC CHLORIDE California prop. 65: No products were found.

Section 16. Other Information

National Fire Protection Association (U.S.A.)	**0**	**Fire Hazard**
	20	**Health**
		Reactivity
		Specific Hazard

Changed Since Last Revision +

Notice to Reader

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