

MATERIAL SAFETY DATA SHEET (MSDS) ZINC SULFATE

SECTION 1 - PRODUCER & SUPPLIERS DETAILS

Manufacturer & Supplier: NUMINOR CHEMICAL INDUSTRIES LTD.

Address: P. O. BOX 92,
MAALOT 24952,
ISRAEL.

Tel: + 972-4-9978220

Fax: + 972-4-9976062

E-Mail: zinc@numinor.com

Web Site: www.numinor.com

SECTION 2 - CHEMICAL NAME & INFORMATION ON INGREDIENTS

Chemical Name: Zinc Sulfate Monohydrate (CAS : 7446 - 19 - 7) (EINECS: 231-793-3)

Symbol:



Xn Harmful



N Dangerous for the Environment

R-Phrases: R36/38- Irritating to eyes and skin.
R50/53- Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Formula: $ZnSO_4 \cdot H_2O$

Synonyms: Dried Zinc Sulphate, Zinc Sulphate

% Range: 98 - 100%

Trace materials normally not exceeding 0.5%

There are no physically added chemical substances. The impurities are inherent to the raw materials used in the production of Zinc Sulfate.

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

Melting Point: Above 730°C

Specific Gravity: 3.70 g/cm³ at 20°C

Solubility in water: Soluble in water.

Formula Wt. 179.40

Appearance & Odour: Clear to white crystalline powder, odourless

SECTION 4 - HAZARDS IDENTIFICATION

Physical / chemical hazards:	Harmful if swallowed, causes irritation, avoid contact with eyes and skin.
Environmental hazard:	R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Adverse human health effects	
- Inhalation :	Causes irritation to the respiratory tract.
- Skin contact :	Skin contact may cause irritation.
- Eye contact :	Excessive dust exposure may cause eye irritation.
- Ingestion :	Health hazard if ingested and can cause abdominal pain, nausea, diarrhea, cramps, and damage to gastrointestinal tract.

SECTION 5 - FIRE, FIGHTING & EXPLOSION DATA

Fire:	Non Combustible.
Flammability:	Non Flammable
Flash point:	Not combustible
Extinguishing media:	In case of fire in immediate vicinity use any extinguishing agent appropriate for surrounding area.
Protection of fire-fighters:	Use breathing apparatus (self-contained breathing apparatus with full face shield). Wear suitable protective clothing.
Hazardous combustion and decomposition by-products:	May emit SO_x fumes.

SECTION 6 - STABILITY & REACTIVITY DATA

Stability:	Stable under ordinary conditions.
Hazardous Reactions:	Avoid Heating! Decomposition can emit SO_x and ZnO fumes.

SECTION 7 - Toxicological Information

Acute toxicity	
- Inhalation:	(rat) 4 hours LC50 > 5.7 mg ZnO/l Klimisch et al. 1982
- Dermal:	No data available.
- Ingestion:	(rat) LD50 >15000 mg ZnO/kg OECD 401
Dermal irritation (rabbit):	Not irritant. OECD 404
Eyes irritation (rabbit):	Not irritant. OECD 405
Chronic toxicity:	50 mg ZnO/ day

(Section 7 continued-Toxilogical Information)

Sensitization:	Contact with skin causes irritation.
Carcinogenicity:	NTP: No IARC: No Z List: No OHA Reg: No
Mutagenicity:	In vitro and in vivo test of short-term genotoxicity: no evidence of genotoxicity.
Reproductive toxicity:	No experimental or epidemiological evidence of reproduction toxicity. Teratogenicity

SECTION 8 - FIRST AID MEASURES

Effects and symptoms:	No specific effects and/or symptoms have been reported or known.
First aid	
- Skin contact:	Rinse immediately with plenty of water
- Inhalation:	Remove victim to fresh air. If feeling unwell, immediately seek medical attention.
- Eye contact:	Rinse immediately with clean water for 15 minutes. If feeling unwell, immediately seek medical attention.
- Ingestion:	Immediately rinse mouth with water. Do not induce vomiting. Give water to drink. If feeling unwell, immediately seek medical attention.
Protection of rescue personnel:	Avoid all unnecessary exposure. Use appropriate protection (see Section 9).

SECTION 9 - PERSONAL PROTECTION & EXPOSURE CONTROLS

- Respiratory protection:	Respiratory protection equipment not absolutely necessary.
- Hand protection:	Gloves. Material: leather gloves, cotton gloves, rubber gloves.
- Skin protection:	Work clothes.
- Eye protection:	Chemical goggles or safety glasses.
Occupational Exposure Limits	
8 Hour TLV-TWA [mg/m3] :	10 (Dust) 5 (fume)
Engineering measures:	Mechanical ventilation is recommended.
Belgium 2002:	
15 minutes TLV-STEL [mg/m3/]:	10 (fume)

SECTION 10 - ACCIDENTAL RELEASE MEASURES & SPILL LEAK PROCEDURES

Personal precautions:	Wear suitable gloves and eye/face protection. Avoid dust creation.
Environmental precautions:	Do not let product enter drains, sewage system, ground water.
Methods for cleaning up:	Sweep up and shovel into suitable containers for disposal. Re-use or recycle waste.

SECTION 11 - HANDLING AND STORAGE

Handling & storing:	Good housekeeping - store in a cool dry place - keep containers shut. Avoid making dust.
Packing Materials:	All materials suitable. Dry Storage with tightly closed lids.

SECTION 12 - ECOLOGICAL INFORMATION

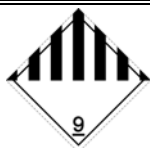
Ecotoxicity:	Water soluble, toxic to aquatic life.
Fish Toxicity:	LC50/96hr/cichlid 13 ppm.
Mammalian Toxicity:	LD50/oral/mouse 57 mg/kg LD50/oral/rat 2900 mg/kg.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal:	Comply with local regulations for disposal.
Waste of residues:	S60 - This material and its container must be disposed of as hazardous waste. Because of possible pollution, remove as industrial waste or hazardous waste. S61- Avoid release to the environment. Refer to special instructions/safety data sheets.
Contaminated packaging:	Keep waste packaging separate. Because of possible pollution, remove as industrial waste or hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

Hazard Labels:



H.S. Code:	2817.00
UN - No:	3077
ADR/RID/ADNR/IMO-IMDG:	Class 9
H.I. No.:	90
Shipping Name:	3077 Environmentally Hazardous Substance, Solid, N.O.S., 9, III, ADR
Packaging Group:	III
IMDG-Marine Pollution	YES
EMS No.	F-A, S-F
MFAG Table	1

SECTION 15 - REGULATORY INFORMATION

Symbol:



Xn Harmful



N



N

Dangerous for the Environment

Risk phrases:

R: 22 – 41 -50/53 Harmful when ingesting. Risk of serious eyes damage. Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases:

S: 2-22-26-39-46-60-61 Keep out of the reach of children. Do not breathe dust. Wash contaminated eyes with plenty of water and seek for doctors advice. Wear protective goggles and face protection. In case of ingestion seek for doctors advice immediately – show packaging or label. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions / Material Safety data sheets.

SECTION 16 - OTHER INFORMATION

Date of Issue:	Dec. 2000
Last update:	February 2010
MSDS prepared by:	AVK

Disclaimer: As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of the material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without any warranty, express or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof.