



ZINC SULPHATE MONOHYDRATE

Safety Data Sheet- MSDS

Update version -IV-

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Zinc Sulphate Monohydrate
Other Names:	Dried zinc sulphate, Sulphuric acid zinc salt monohydrate.
Product Code:	N/A
Recommended Use:	As a Fertilizer ingredient. Animal Feed Supplement
Restrictions of Use:	Refer to Section 15
Company Identification:	DRON INDUSTRIES
Address:	72, Kamla Amrut industrial Estate Indrad-382715 off Torrent pharma Gujarat-India
Customer Centre:	+917575007865 www.dronindustries.in, contact@dronindustries.in

Section 2 - HAZARDS IDENTIFICATION

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval No: Additives, Process Chemicals and Raw Materials (subsidiary) - HSR002503

Pictograms:



Signal Word: **Danger**

HSNO Classification	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 4	H302	Harmful if swallowed.
Serious eye damage Cat. 1	H318	Causes serious eye damage.
Specific target organ toxicity – repeated exposure Cat. 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment Acute/chronic Cat. 1	H400/H410	Very toxic to aquatic life with long lasting effects.
Prevention Code	Prevention Statement	
P102	Keep out of reach of children.	
P103	Read label before use.	
P260	Do not breathe dust.	
P264	Wash hands thoroughly after handling.	
P270	Do not eat, drink or smoke when using this product.	
P273	Avoid release to the environment.	
P280	Wear protective clothing as detailed in Section 8.	

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage Code	Storage Statement
None allocated	
Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS No.	CONTENT
Zinc sulphate monohydrate	7446-19-7	99%

Section 4 - FIRST AID MEASURES

Routes of Exposure:

If in eyes:	Flush with plenty of water for several minutes, holding eyelids open if necessary. Remove contact lenses if present and easy to do. Immediately call a POISON CENTER or doctor/physician.
If on skin:	Wash affected area thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.
If ingested:	Rinse mouth. Never give anything by mouth to an unconscious person. If swallowed DO NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
If inhaled:	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance If needed.

Most important symptoms and effects, both acute and delayed

Symptoms:

Eyes:	Causes severe eye damage.
Skin:	Not applicable.
Ingested:	Harmful if swallowed. Ingestion of large quantities may lead to nausea, vomiting, inflammation of mucous membranes, stomach ulceration, cold sweats, pulse depression and leg cramps.
Inhaled:	May lead to nausea, vomiting, inflammation of mucous membranes.
Chronic:	May cause damage to organs through prolonged or repeated exposure. .

Section 5 - FIRE FIGHTING MEASURES

Hazard Type	Non-Flammable
Hazards from combustion products	Sulphur oxides, zinc oxide.
Suitable Extinguishing media	Use extinguishing media suitable for surrounding area.
Precautions for firefighters and special protective clothing	Breathing apparatus and protective gloves. Use water spray to cool intact containers.
HAZCHEM CODE	22

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear appropriate protective clothing as detailed in Section 8. Exclude non-essential people from the area.

Environmental precautions:

Avoid from entering drains, waterways or sewers.

Methods and material for containment and cleaning up:

Contain spill and sweep up. Collect and place in sealable containers. Avoid generating dust. Dispose of according to Section 13.

Section 7 - HANDLING AND STORAGE

Handling:

Read label before use.
Do not breathe dust. Use only outdoors or in a well-ventilated area.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.
Wear protective clothing as detailed in Section 8.

Storage:

Store away from incompatible materials listed in Section 10. Keep out of the reach of children. Keep container tightly closed. Store in sealed packaging in cool, dry, well-ventilated area.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³

No exposure limits have been assigned for this product.

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2019 11TH EDITION.

Engineering Controls: If dusts are generated use local extraction to control

Personal Protection Equipment



Eyes:

Safety glasses. If dusts present wear goggles. Ensure eye wash facilities should be available.

Skin/Hands: Respiratory:

When contact with product is likely, wear protective gloves and overalls
If dusts present wear dust mask.

General:

Do not eat, drink or smoke while using this product. Remove protective clothing and wash daily after work. Contaminated clothing should not be allowed out of the workplace.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Powder or granules
Colour	White
Odour	Odourless
Odour Threshold	Not available
pH	(50g.L-1 in water, 20°C) 4-5.2
Boiling Point	Not available
Melting Point	240°C (loses crystalline water).
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	3.35 g/cm ³
Bulk Density	1260 g.cm-3
Water Solubility	350g/L (at 20°C).
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	>600°C
Kinematic Viscosity	Not available
Particle Characteristics	Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

Stability of Substance	Stable under normal conditions.
Possibility of hazardous reactions	Not available
Conditions to Avoid	Strong heat, moisture.
Incompatible Materials	Strong oxidizing agents, water, lead, calcium, strontium salts, borax, alkali carbonates and hydroxides, silver proteins and tannins.
Hazardous Decomposition Products	Sulphur oxides, zinc oxide.
Hygroscopic	Yes

Section 11 - TOXICOLOGICAL INFORMATION

Acute Effects:	
Swallowed	Harmful if swallowed. Ingestion of large quantities may lead to nausea, vomiting, inflammation of mucous membranes, stomach ulceration, cold sweats, pulse depression and leg cramps.LD50 (oral, rat)2949 mg.kg ⁻¹
Dermal	Not applicable.
Inhalation	Not triggered however if inhaled may lead to nausea, vomiting, inflammation of mucous membranes.
Eye	Causes severe eye damage.
Skin	Not applicable.
Chronic Effects:	
Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	May cause damage to organs through prolonged or repeated exposure.

Section 12 – ECPOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects

Persistence and degradability	No data available.
Bioaccumulation	No data available.
Mobility in Soil	No data available.
Other adverse effects	No data available.

Do not allow to enter waterways

Section 13 - DISPOSAL INFORMATION

Disposal Method:	Dispose of product only by using according to label or at an approved landfill. Recycle where possible. Do not contaminate bodies of water with chemical or empty container. Refer to the Local council bylaws and Land Waste Management Authority.
Container Disposal:	Rinse containers thoroughly prior to re-use. Otherwise render unusable, and dispose of as hazardous waste.
Precautions or methods to avoid:	Do not allow to enter waterways.

Section 14 - TRANSPORT INFORMATION



Road, Rail, Sea and Air Transport

UN No	3077
Class – Primary	9
Packing Group	III
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID N.O.S
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 5kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 - REGULATORY INFORMATION

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval Code: Additives, Process Chemicals and Raw Materials (subsidiary) - HSR002503

GHS Classification: Acute oral toxicity Cat. 4
Serious eye damage Cat. 1
Specific target organ toxicity – repeated exposure Cat. 2
Hazardous to the aquatic environment Acute/chronic Cat. 1

HSW (HS) Regulations 2017	Trigger Quantity
Signage Trigger Quantities (Schedule 3)	100kg
Emergency Response Plan (Schedule 5)	100kg
Secondary Containment (Schedule 5)	100kg
Tracking (Schedule 26)	Not required
Certified Handlers	Not required
Restrictions of use	None known.

Section 16 - OTHER INFORMATION

Glossary

Cat	Category
EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC ₅₀	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD ₅₀	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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