



Report No.: MND241151QD_US(En)2/2

Nomination No.: MCHQD2402938-01

Design Report of Safety Data Sheet

Product Name: Zinc molybdenum phosphate

Warranty of Design: USA OSHA HCS-2024

Application Company Name: SHIJIAZHUANG CITY XINSHENG CHEMICAL CO.,LTD.

Application Company Address: 8 Chang 'an Road, Economic Development Zone, Xinle City, Hebei Province,
China

Contact Information: 15232160175

24 Hour Emergency Call: **0311-88676378**

Inspection Date: 2024/10/18

SGS-CSTC Standards Technical Services(Qingdao) Co.,Ltd

Authorised Signatory

2024-10-24



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Safety Data Sheet

Zinc molybdenum phosphate

Version: V2.0.0.1
Report No.: MND241151QD_US(En)2/2
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Creation Date: 2024/10/18
Revision Date: 2024/10/18

*Prepared according to American OSHA HCS-2024 (29 CFR 1910.1200)

1 Identification

Product identifier

Product Name	Zinc molybdenum phosphate
Product Model	ZPM
CAS No.	Not applicable
EC No.	Not applicable
Molecular Formula	Not applicable

Recommended use of the product and restrictions on use

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

Details of the supplier of the Safety Data Sheet

Name of the company	SHIJIAZHUANG CITY XINSHENG CHEMICAL CO.,LTD.
Address of the company	8 Chang 'an Road, Economic Development Zone, Xinle City, Hebei Province, China
Post code	—
Telephone number	15232160175
Fax number	—
E-mail address	495413802@QQ.com

Emergency phone number

Emergency phone number	0311-88676378
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2 Hazard(s) identification

Hazard classification according to 29 CFR 1910.1200

Carcinogenicity	Category 2
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Label elements

Hazard pictograms	
Signal word	Warning

Hazard statements

H351	Suspected of causing cancer
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Precautionary statements

Prevention		
	P201	Obtain special instructions before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
Response		
	Response	Not applicable
Storage		
	P405	Store locked up.
Disposal		
	P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards

	Not applicable.
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Hazard description

Physical and chemical hazards		
		No information available
Health hazards		
	Inhaled	Inhalation of the product may produce adverse health effects or irritation of the respiratory tract following discomfort.
	Ingestion	Accidental ingestion of the product may be harmful to the health of the individual.
	Skin Contact	Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
	Eye	This product may cause temporary discomfort following direct contact with the eye.
Environmental hazards		
		Please refer to 12th chapter of SDS.

3 Composition/information on ingredients

Substance/mixture

	Mixture
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Component	CAS No.	EC No.	Concentration (wt, %)
zinc phosphate	7779-90-0	231-944-3	>= 99
molybdenum oxide	1313-27-5	215-204-7	<= 1

4 First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a

	physician if feel uncomfortable.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of soap and water for at least 15 minutes and consult a physician if feel uncomfortable.
Ingestion	Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
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Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Small fire: dry chemical, CO2, water spray or regular foam; Large fire: water spray, fog or regular foam; Fire involving tanks: cool containers with flooding quantities of water until well after fire is out.
Unsuitable extinguishing media	Large fire: Do not scatter spilled material with high-pressure water streams.

Specific hazards arising from the substance or mixture

1	Development of hazardous combustion gases or vapor possible in the event of fire.
2	May expansion or decompose explosively when heated or involved in fire.

Special protective equipment and precautions for fire-fighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

1	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
2	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
3	Use personal protective equipment, do not breathe dust/fume.

Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

1	Cut off the source of the leak as much as possible.
2	Keep leaks in a ventilated place.
3	Isolation of contaminated areas and restrictions on access.
4	It is recommended that emergency personnel wear dust masks.
5	Collect the spill with a clean shovel and place it in a clean, dry, loosely closed container and move the container away from the leak.
6	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

7 Handling and storage

Precautions for safe handling

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.
4	Keep away from heat/sparks/open flames/ hot surfaces.

Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

8 Exposure controls/personal protection

Control parameters

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
molybdenum oxide	Finland	-	0.5	-	-

Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

Personal protection equipment

General requirement	    
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear appropriate chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear appropriate chemical protective clothing and chemical resistant shoes.

9 Physical and chemical properties and safety characteristics

Physical and chemical properties

Appearance (physical state, color, etc.)	White Powder
Odor	Odorless
Odor threshold	No information available
pH	5.5~7
Melting point/freezing point(°C)	No information available
Initial boiling point and boiling range(°C)	No information available
Flash point(Closed cup,°C)	Not applicable
Evaporation rate	Not applicable
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit: No information available; Lower limit: No information available
Vapor pressure(kPa)	Not applicable
Vapor density(Air = 1)	Not applicable
Relative density(Water=1)	3.0±0.2
Solubility(mg/L)	No information available
n-octanol/water partition coefficient	No information available
Auto-ignition temperature(°C)	400 (dehydration)
Decomposition temperature(°C)	No information available
Kinematic viscosity(mm²/s)	Not applicable

10 Stability and reactivity

Stability and reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	No information available.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	No information available.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
molybdenum oxide	2689mg/kg(Rat)	> 2000mg/kg(Rat)	> 5.84mg/L(Rat)

Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP	OSHA Carcinogen List
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zinc phosphate	Not Listed	Not Listed	Not Listed
molybdenum oxide	Category 2B	Not Listed	Not Listed

Others

Zinc molybdenum phosphate	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

12 Ecological information

Acute aquatic toxicity

Component	Fish	Crustaceans	Algae
zinc phosphate	LC ₅₀ : 0.09mg/L (96h)(Fish)	No information available	No information available
molybdenum oxide	LC ₅₀ : 577mg/L (96h)(Fish)	No information available	No information available

Chronic aquatic toxicity

Chronic aquatic toxicity	No information available
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Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
molybdenum oxide	High	High

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
molybdenum oxide	Low	Log Kow=2.229

Mobility in soil

Component	Mobility in soil	Soil Organic Carbon-Water Partitioning Coefficient (Koc)
molybdenum oxide	Low	35.04

Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
zinc phosphate	Not applicable
molybdenum oxide	Not applicable

13 Disposal considerations

Disposal considerations

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	
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IMDG-CODE

UN number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class	9
Transport subsidiary hazard class	None
Packing group	III
Marine pollutant (Yes or no)	No

IATA-DGR

UN number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class	9
Transport subsidiary hazard class	None
Packing group	III

UN-ADR

UN number	3077
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Transport hazard class	9
Transport subsidiary hazard class	None
Packing group	III

Others

Precautions for transport	Transport vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.
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15 Regulatory information

International chemical inventory

Component	EC inventory	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AIIC	ENCS
zinc phosphate	✓	✓	✓	✓	✓	✓	✓	✓	✓
molybdenum oxide	✓	✓	✓	✓	✓	✓	✓	✓	✓

[EC inventory] European Inventory of Existing Commercial Chemical Substances

[TSCA] United States Toxic Substances Control Act Inventory

[DSL] Canadian Domestic Substances List

[IECSC] China Inventory of Existing Chemical Substances

[NZIoC] New Zealand Inventory of Chemicals

[PICCS] Philippines Inventory of Chemicals and Chemical Substances

[KECI] Korea Existing Chemicals Inventory

[AIIC] Australian. Inventory of Industrial Chemical (AIIC)

[ENCS] Japan Inventory of Existing & New Chemical Substances

US chemical inventory

Component	A	B	C	D	E	F	G	H
zinc phosphate	×	×	×	×	×	×	×	×
molybdenum oxide	×	×	×	✓	✓	✓	✓	✓

[A] US Clean Air Act (CAA)- Section 112, Hazardous Air Pollutants

[B] US SARA 302- Extremely Hazardous Substance List

[C] US CERCLA- Hazardous Substances List

[D] US Massachusetts Right-to-Know Substance List

[E] US New Jersey Right to Know Hazardous Substance List

[F] US Pennsylvania Right to Know Hazardous Substance List

[G] US New York City Right-to-Know Hazardous Substance List

[H] US California Proposition 65 List

Note:

“✓” Indicates that the substance included in the regulations.

“×” No data or not included in the regulations.

16 Other information

Information on revision

Creation Date	2024/10/18
Revision Date	2024/10/18
Reason for revision	-

Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC ₅₀	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD ₅₀	Lethal Dose 50%	NTP	National Toxicology Program
EC ₅₀	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC _x	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P _{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor	HCS	Hazard Communication Standard

Disclaimer

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