

Chemical Safety Data Sheet MSDS / SDS

LEPTOPHOS

Revision Date:2026-03-21 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name : LEPTOPHOS
CBnumber : CB6293008
CAS : 21609-90-5
EINECS Number : 244-472-8
Synonyms : V.C.S.;LMB

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Hazard statements

H300 Fatal if swallowed

H311 Toxic in contact with skin

H370 Causes damage to organs

H410 Very toxic to aquatic life with long lasting effects

SECTION 3: Composition/information on ingredients

Substance

Product name	: LEPTOPHOS
Synonyms	: V.C.S.;LMB
CAS	: 21609-90-5
EC number	: 244-472-8
MF	: C13H10BrCl2O2PS
MW	: 412.07

SECTION 4: First aid measures

First Aid Measures

General advice

Immediate medical attention is required.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.

Skin Contact

Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation

Immediate medical attention is required Remove to fresh air If not breathing, give artificial respiration Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation

Ingestion

Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water.

Self-protection of the first aider

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

SECTION 5: Firefighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

None.

Specific hazards arising from the chemical**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

Hazardous combustion products

Hydrogen sulfide. Carbon oxides. Phosgene.

Explosion data**Sensitivity to Mechanical Impact**

No information available.

Sensitivity to Static Discharge

No information available.

Protective equipment and precautions for firefighters**Protective equipment and precautions for firefighters**

As in any fire, wear self contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures**Personal precautions**

Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental precautions**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

See Section 12 for additional Ecological Information. Should not be released into the environment.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Use personal protective equipment as required. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically, placing in appropriate containers for disposal. Avoid creating dust. Clean contaminated surface thoroughly.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray.

Do not eat, drink or smoke when using this product. Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store at 4 °C.

Incompatible materials

None known based on information supplied.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations

Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles.

Skin and Body Protection

Wear protective gloves and protective clothing.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Physical State

Solid

Appearance	No information available
Odor	No information available
pH	No information available
Melting point/freezing point	No information available
Boiling point	444.4±55.0 °C(Predicted)
Flash point	100 °C
Density	1.53 g/cm ³ (25 °C)
Evaporation rate	No information available
Upper flammability limits	No information available
Lower flammability limit	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	2.4mg/L(25 °C)
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Solubility	DMSO (Slightly), Methanol (Slightly)
Colour	White to Pale Yellow

SECTION 10: Stability and reactivity

Reactivity

Not applicable

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization

No information available.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Strong oxidizing agents.

Hazardous Decomposition Products

Hydrogen sulfide. Carbon oxides. Phosgene.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation

Classified based on available data. For more details, see section 2.

Eye contact

Classified based on available data. For more details, see section 2.

Skin Contact

Classified based on available data. For more details, see section 2.

Ingestion

Classified based on available data. For more details, see section 2.

Information on toxicological effects

Symptoms

Classified based on available data. For more details, see section 2.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity

Classified based on available data. For more details, see section 2. Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name ACGIH IARC NTP OSHA

Leptophos - Group

2A - X 21609-90-5

Numerical measures of toxicity - Product Information

Unknown acute toxicity

Classified based on available data. For more details, see section 2

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)

100 mg/kg

ATEmix (dermal)

1100 mg/kg

ATEmix (inhalation-dust/mist)

0.5 mg/l

ATEmix (inhalation-vapor)

0.9 mg/l

SECTION 12: Ecological information

Ecotoxicity

May cause long lasting harmful effects to aquatic life

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

SECTION 13: Disposal considerations

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations. Should not be released into the environment.

Contaminated packaging

Do not reuse container.

Other Information

Waste codes should be assigned by the user based on the application for which the product was used.

California Hazardous Waste Status

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Leptophos 21609-90-5	Toxic

SECTION 14: Transport information

DOT

UN/ID no

UN3464

Hazard Class

6.1

Packing Group

II

Proper shipping name

Organophosphorus compound, solid, toxic, n.o.s.

Description

UN3464, Organophosphorus compound, solid, toxic, n.o.s. (Leptophos), 6.1, II

Emergency Response Guide Number

151

IMDG**UN/ID no**

UN3464

Hazard Class

6.1

Packing Group

II

Proper shipping name

Organophosphorus compound, solid, toxic, n.o.s.

Description

UN3464, Organophosphorus compound, solid, toxic, n.o.s. (Leptophos), 6.1, II

Special Provisions

43, 274

EmS-No

F-A, S-A

IATA**UN/ID no**

UN3464

Hazard Class

6.1

Packing Group

II

Proper shipping name

Organophosphorus compound, solid, toxic, n.o.s.

Description

UN3464, Organophosphorus compound, solid, toxic, n.o.s. (Leptophos), 6.1, II

SECTION 15: Regulatory information

International Inventories

All of the components in the product are on the following Inventory lists

Europe (EINECS/ELINCS/NLP) Australia (AICS) South Korea (KECL):

X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Leptophos	-	-	-	X	-	-	-	X	-	X

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard

Yes

Chronic Health Hazard

No

Fire hazard

No

Sudden release of pressure hazard

No

Reactive hazard

No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Leptophos 21609-90-5	X	X	X

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.