Chemical Safety Data Sheet MSDS / SDS

Phenylmercury acetate SDS

Revision Date:2024-04-25 Revision Number:1

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

Product identifier

Product name: Phenylmercury acetate

CAS: 62-38-4

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.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Acute toxicity - Category 3, Oral
Skin corrosion, Sub-category 1B

Specific target organ toxicity – repeated exposure, Category 1
Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H301 Toxic if swallowed
H314 Causes severe skin burns and eye damage
H372 Causes damage to organs through prolonged or repeated exposure
H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.

Response

P301+P316 IF SWALLOWED: Get emergency medical help immediately.
P321 Specific treatment (see ... on this label).
P330 Rinse mouth.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316 Get emergency medical help immediately.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P319 Get medical help if you feel unwell.
P391 Collect spillage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Phenylmercury acetate
Common names and synonyms:	Phenylmercury acetate
CAS number:	62-38-4
EC number:	200-532-5
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Refer immediately for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower for at least 15 minutes. Refer immediately for medical attention .

Following eye contact

Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Refer immediately for medical attention.

Most important symptoms/effects, acute and delayed

Extremely toxic. The probable oral lethal dose for humans is 5-50 mg/kg, between 7 drops and 1 teaspoonful for a 70 kg (150 lb.) person. (EPA, 1998)

Indication of immediate medical attention and special treatment needed, if necessary

Although the use of BAL is indicated in severe inorganic mercury poisoning, the effectiveness of BAL in organic and elemental mercury poisoning is highly questionable. There are survivors of severe elemental mercury poisoning who have been treated only with supportive care. Dimercaprol is ineffective in reversing chronic organic neurologic effects but should be administered in acute ingestions of aryl organic mercury compounds (eg, phenylmercuric acetate, which is converted to inorganic mercury in the body).

SECTION 5: Firefighting measures

Suitable extinguishing media

If material is in solution with organic solvent, treat fire according to the solvent characteristics, in addition to the mercuric hazard. Unless otherwise indicated, use water spray, dry chemical, "alcohol resistant" foam, or carbon dioxide. Water may be ineffective.

Specific hazards arising from the chemical

Fire may produce irritating or poisonous gases. When heated to decomposition, very toxic mercuric fumes may be given off. Phenylmercuric ion is incompatible with halides, with which precipitates are formed. (EPA, 1998)

Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the

environment. Sweep spilled substance into sealable containers. If appropriate, moisten first to prevent dusting. Then store and dispose of according to local regulations.

Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers. If appropriate, moisten first to prevent dusting. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

Solid material: Control release and place material and disposal equipment into appropriate containers. Solvent-based material: Control runoff. In all cases, avoid contact with material. Keep material from entering the environment to the fullest extent practicable.

SECTION 7: Handling and storage

Precautions for safe handling

NO open flames, NO sparks and NO smoking. Closed system, dust explosion-proof electrical equipment and lighting. Prevent deposition of dust. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Fireproof. Provision to contain effluent from fire extinguishing. Separated from oxidants and food and feedstuffs. Cool. Dry. Well closed. Keep in a well-ventilated room. Store in an area without drain or sewer access.Store in a cool, dry, well-ventilated, noncombustible location. separate from oxidizing materials, halides.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

TLV: 0.1 mg/m3, as TWA; (skin).MAK: skin absorption (H); sensitization of skin (SH); carcinogen category: 3B

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear face shield or eye protection in combination with breathing protection if powder.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation (not if powder), local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Small lustrous prisms. Toxic by ingestion, inhalation and skin absorption. May severely irritate skin and eyes. Used as an herbicide and fungicide. as such, is mixed with organic solvent for the purpose of application.
Colour:	WHITE TO CREAMY WHITE CRYSTALLINE POWDER OR SMALL WHITE PRISMS OR LEAFLETS
Odour:	ODORLESS
Melting point/freezing point:	149-153°C
Boiling point or initial boiling point and boiling range:	no data available
Flammability:	Flammable. Gives off irritating or toxic fumes (or gases) in a fire.

Lower and upper explosion limit/flammability limit:	no data available
Flash point:	140° F (USCG, 1999)
Auto-ignition temperature:	no data available
Decomposition temperature:	147-150°C
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Slightly soluble (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow= 0.71
Vapour pressure:	9 mm Hg at 95° F (NTP, 1992)
Density and/or relative density:	2.4
Relative vapour density:	(air = 1): 11.6
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Decomposes on burning. This produces toxic vapours of mercury and mercury oxides. Reacts with oxidizing materials.

Chemical stability

Stable for at least 2 years under normal storage conditions in unopened containers.

Possibility of hazardous reactions

Combustible solid. If in solution, fire characteristics may depend on solvent. Dust explosion possible if in powder or granular form, mixed with air. PHENYLMERCURIC ACETATE may react with strong oxidizing agents (NTP, 1992).

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

Combustion by-products include mercuric vapors and fumes.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 22 mg/kg

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion.

STOT-repeated exposure

Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the nervous system and kidneys. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50 Salmo gairdneri (Rainbow trout, juvenile) 1,780 ug/l/48 hr. /Conditions of bioassay not specified

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

Soil and aquatic microorganism: Phenylmercuric acetate is quickly degraded, with diphenylmercury as one of the major metabolic products.

Bioaccumulative potential

Phenylmercuric acetate is not expected to bioconcentrate in aquatic organisms as it dissociates rapidly in water forming phenylmercuric cation. (SRC)

Mobility in soil

The Koc of phenylmercuric acetate is estimated as 60(SRC), using a log Kow of 0.71(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that phenylmercuric acetate is expected to have a high mobility in soil. However, phenylmercuric acetate is expected to dissociate in moist soils to the cation(SRC). Cations generally adsorb to organic matter and clay more strongly than their neutral counterparts, suggesting that the mobility may be much lower in some soils(SRC). In a river study, it was found that the phenymercuric cation sorbed strongly to particles and humic material in the water column(4).

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN1674 (For reference only, please check.)
IMDG: UN1674 (For reference only, please check.)
IATA: UN1674 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: PHENYLMERCURIC ACETATE (For reference only, please check.)
IMDG: PHENYLMERCURIC ACETATE (For reference only, please check.)
IATA: PHENYLMERCURIC ACETATE (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)
IMDG: 6.1 (For reference only, please check.)
IATA: 6.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: II (For reference only, please check.)
IMDG: II (For reference only, please check.)
IATA: II (For reference only, please check.)

Environmental hazards

ADR/RID: Yes
IMDG: Yes
IATA: Yes

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

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

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Explosive limits are unknown in literature, although the substance is combustible and has a flash point < 55°C. Do NOT take working clothes home.