Chemical Safety Data Sheet MSDS / SDS

Fentin 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: Fentin acetate

CAS: 900-95-8

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
Acute toxicity - Category 3, Dermal

Skin irritation, Category 2
Serious eye damage, Category 1
Acute toxicity - Category 2, Inhalation
Specific target organ toxicity – single exposure, Category 3
Carcinogenicity, Category 2
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
Reproductive toxicity, Category 2

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Danger

Hazard statement(s)

H301 Toxic if swallowed
H311 Toxic in contact with skin
H315 Causes skin irritation
H318 Causes serious eye damage
H330 Fatal if inhaled
H335 May cause respiratory irritation
H351 Suspected of causing cancer
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.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P284 [In case of inadequate ventilation] wear respiratory protection.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P203 Obtain, read and follow all safety instructions before use.

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.
P302+P352 IF ON SKIN: Wash with plenty of water/...
P316 Get emergency medical help immediately.
P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
P332+P317 If skin irritation occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P317 Get medical help.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P320 Specific treatment is urgent (see ... on this label).
P319 Get medical help if you feel unwell.
P318 IF exposed or concerned, get medical advice.
P391 Collect spillage.

Storage

P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

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: Fentin acetate

Common names and synonyms:	Fentin acetate
CAS number:	900-95-8
EC number:	212-984-0
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

Most important symptoms/effects, acute and delayed

Very toxic, irritant to skin. (EPA, 1998)

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

Absorption, Distribution and Excretion

Based on oral & ip admin to rats, mice & guinea pigs/ absorption from the GI tract is poor compared with that from the peritoneum.

SECTION 5: Firefighting measures

Suitable extinguishing media

Non-Specific -- Organotin pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organotin pesticide, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)

Specific hazards arising from the chemical

Avoid air, light and moisture. (EPA, 1998)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours.Avoid contacting with skin and eye. Use personal protective equipment.Wear chemical impermeable gloves. Ensure adequate ventilation.Remove all sources of ignition. Evacuate personnel to safe areas.Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

The compounds should not be allowed to enter drains or watercourses. Triphenyltin compounds

SECTION 7: Handling and storage

Precautions for safe handling

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

Store under dark & dry condition.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

Component	Fentin acetate			
CAS No.	900-95-8			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m^3	ppm	mg/m^3
Germany (AGS)	0,0004 (1)	0,002 (1)	0,0008 (1)(2)	0,004 (1)(2)
	Remarks			
Germany (AGS)	(1) Inhalable fraction and vapour (2) 15 minutes average value			

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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Stannane, acetoxytriphenyl- is a white crystalline solid. Melting point 123-131°C (253-268°F). Used as a fungicide, algaecide and molluscicide. Controls early and late blight on potatoes.
Colour:	Colorless crystals
Odour:	no data available
Melting point/freezing point:	118-122°C
Boiling point or initial boiling point and boiling range:	no data available
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	no data available
Auto-ignition temperature:	IT IS NEITHER FLAMMABLE NOR AUTOIGNITIBLE.
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	In water, about 9 mg/l at pH 5 and 20 deg C.

Partition coefficient n-octanol/water:	log Kow = 3.43
Vapour pressure:	1.4e-08 mm Hg at 140° F (EPA, 1998)
Density and/or relative density:	1.55
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Slowly oxidized, hydrolyzed when exposed to air and moisture.

Chemical stability

Stable when dry. Converted to fentin hydroxide in the presence of water. Unstable in acids & alkalis (22 deg C). Decomposed by sunlight & by atmospheric oxygen.

Possibility of hazardous reactions

IT IS NEITHER FLAMMABLE NOR AUTOIGNITIBLE.ACETOXYTRIPHENYLSTANNANE is subject to decomposition when exposed to air, light and moisture [EPA, 1998].

Conditions to avoid

no data available

Incompatible materials

Incompatible with emulsifiable preparations and pastes.

Hazardous decomposition products

Converted to fentin hydroxide in the presence of water.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat female oral 140-298 mg/kg (Technical AI, in starch mucilage)

Inhalation: LC50 Rat (female) inhalation 0.069 mg/l air/4 hr

Dermal: LD50 Rat percutaneous ca 450 mg/kg

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

A4; Not classifiable as a human carcinogen. Organic tin cmpd, as Sn

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

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

Several aspergillus species were able to degrade fentin in liq culture with release of (14)carbon dioxide. a gram-negative bacterium was also able to metabolize fentin.

Bioaccumulative potential

A BCF of 800 was measured in rainbow trout for triphenyltin acetate(1). According to a classification scheme(2), this BCF suggests that bioconcentration in aquatic organisms is high(SRC). The uptake and elimination rates of structurally-related radiolabeled triphenyltin hydroxide in guppies were 41 l/kg-day and 0.014/day, giving a BCF (uptake: elimination ratio) of 2900 l/kg (wet weight) during 30 days of exposure(1). For rainbow trout larvae the uptake and elimination rates were 22 l/kg-day and 0.031/day, respectively giving a BCF of 650 ml/g after 4 days; the lower BCF in the trout than the guppies being a result of the higher elimination rate. Since equilibrium was not reached, the bioconcentration factor was underestimated(1). The log BCFs of triphenyltin in crucian carp obtained in a 7-day experiment were 1.70 (muscle), 1.70 (vertebra); 2.05 (liver); and 1.49 (kidney)(3). In studies in which the bioaccumulation and elimination of triphentyltin in Red Sea bream (Pagrus major) was by direct uptake from water, from diet, and from both simultaneously, about a quarter of the bioaccumulation was due to dietary uptake(4). The bioaccumulation factor was 0.257. The elimination rate was 0.020/day and was independent of the source of uptake, water or diet. Bioaccumulation was also independent of the form of triphenyltin in the diet(4). Minnow (Phoxinus phoxinus) embryos/larvae and freshly hatched larvae were exposed to triphenyltin chloride in Lake Lucerne, Switzerland water at 16 deg C(5). The BCF for embryo larvae was 530 at the end of a 192 hr uptake period. Newly hatched larvae had BCFs of 457 and 930 after 96 and 144 hours. At this time the BCF had not reached a plateau so the actual BCF was higher. While uptake of triphenyltin from water was rapid, elimination was absent during a 96-hr depuration period. The concn of the metabolites monophenyltin and diphenyltin were very low(5).

Mobility in soil

If triphenyltin acetate is released to soil, it either exists as, or rapidly converted to oxides, hydroxides, carbonates, or hydrated cations(1). Oxides, hydroxides, carbonates or cations are not expected to leach through soil into groundwater(SRC). In a laboratory soil leaching study, triphenyltins were strongly attached to soil(2). This also suggests that triphenyltins (such as triphenyltin acetate) may be expected to have low mobility in soil(SRC). The Freundlich parameters, log k and 1/n, for triphenyltin to sediment were 1.81 and 0.793, respectively(3).

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: UN3020 (For reference only, please check.)
IMDG: UN3020 (For reference only, please check.)
IATA: UN3020 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: ORGANOTIN PESTICIDE, LIQUID, TOXIC (For reference only, please check.)
IMDG: ORGANOTIN PESTICIDE, LIQUID, TOXIC (For reference only, please check.)

IATA: ORGANOTIN PESTICIDE, LIQUID, TOXIC (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: I (For reference only, please check.)
IMDG: I (For reference only, please check.)
IATA: I (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)

Not 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/