Material Safety Data Sheet

Version 4.0
Revision Date 03/14/2010
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Fentin acetate
Product Number	:	45491
Brand	:	Fluka
Company	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+18003255832
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Emergency Phone #	:	(314) 776-6555

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Target Organ Effect, Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Irritant

Target Organs

Liver

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H301 + H311	Toxic if swallowed or in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H371	May cause damage to organs.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.
P284	Wear respiratory protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P501	Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health hazard:	4
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

NFPA Rating

Health hazard: 4
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be fatal if inhaled. Causes respiratory tract irritation.
Skin Toxic if absorbed through skin. Causes skin irritation. May be fatal if absorbed through skin.
Eyes Causes eye irritation.
Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Acetoxytriphenylstannane
Triphenyltin acetate

Formula : $C_{20}H_{18}O_2Sn$
Molecular Weight : 409.07 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Fentin acetate			
900-95-8	212-984-0	050-003-00-6	-

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Fentin acetate	900-95-8	TWA	0.1 mg/m3	1993-06-30	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.1 mg/m3	1989-03-01	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
Remarks	Skin contact does contribute to exposure.				
		TWA	0.1 mg/m3	1996-05-18	USA. ACGIH Threshold Limit Values (TLV)
	Skin contact does contribute to exposure. Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories. Refers to Appendix A -- Carcinogens. 1996 Adoption				
		STEL	0.2 mg/m3	1994-09-01	USA. ACGIH Threshold Limit Values (TLV)
	Skin contact does contribute to exposure. Not classifiable as a human carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.				

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves.

Eye protection
Face shield and safety glasses

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form powder

Colour	beige

Safety data

pH	no data available
Melting point	119 °C (246 °F)
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Water solubility	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Tin/tin oxides
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 125 mg/kg

LD50 Dermal - rat - 450 mg/kg

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

Genotoxicity in vitro - Hamster - ovary
Sister chromatid exchange

Genotoxicity in vitro - Hamster - ovary
Micronucleus test

Genotoxicity in vivo - mouse - Oral
Micronucleus test

Carcinogenicity

Carcinogenicity - mouse - Oral
Tumorigenic:Neoplastic by RTECS criteria. Liver:Tumors.

Limited evidence of carcinogenicity in animal studies

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or

anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Suspected human reproductive toxicant

Reproductive toxicity - rat - Oral
Paternal Effects: Testes, epididymis, sperm duct.

Reproductive toxicity - rat - Oral
Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity - rat - Oral
Effects on Newborn: Weaning or lactation index (e.g., # alive at weaning per # alive at day 4). Effects on Newborn: Behavioral.

Developmental Toxicity - rat - Oral
Specific Developmental Abnormalities: Musculoskeletal system.

Specific target organ toxicity - single exposure (GHS)
May cause damage to organs.

Specific target organ toxicity - repeated exposure (GHS)
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be fatal if inhaled. Causes respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	Toxic if absorbed through skin. Causes skin irritation. May be fatal if absorbed through skin.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure
Headache, Nausea, Vomiting, Dizziness, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: WH6650000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Cyprinus carpio (Carp) - 0.19 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates.	LC50 - Daphnia magna (Water flea) - 0.75 mg/l - 48 h
Toxicity to algae	Growth inhibition NOEC - Desmodesmus subspicatus (green algae) - 0.01 mg/l - 72 h
	Growth inhibition EC50 - Desmodesmus subspicatus (green algae) - 0.032 mg/l - 72 h

Persistence and degradability

Bioaccumulative potential

Bioaccumulation	Oncorhynchus mykiss (rainbow trout) - 28 d Bioconcentration factor (BCF): 2,500 - 3,000

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 3146 Class: 6.1 Packing group: III
Proper shipping name: Organotin compounds, solid, n.o.s.
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 3146 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: ORGANOTIN COMPOUND, SOLID, N.O.S. (Fentin acetate)
Marine pollutant: Marine pollutant

IATA
UN-Number: 3146 Class: 6.1 Packing group: III
Proper shipping name: Organotin compound, solid, n.o.s. (Fentin acetate)

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Highly toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Irritant

DSL Status
This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

	CAS-No.
Fentin acetate	900-95-8

SARA 302 Components

	CAS-No.	Revision Date
Fentin acetate	900-95-8	2007-03-01

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Fentin acetate	900-95-8	2007-03-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Fentin acetate	900-95-8	2007-03-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Fentin acetate	900-95-8	2007-03-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.