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SAFETY DATA SHEET

Section 1. Identification

Tetravinyltin **Product Name:**

Liquid **Product Type: CAS Number:** 1112-56-7 **Product Number:** SN2567

Product Manufacturer: Ereztech LLC

11555 Medlock Bridge Road, Suite 100

Johns Creek, GA 30097

(888) 658-1221 **Product Information:**

In case of an emergency: CHEMTREC: 1-800-424-9300 (USA);

> +1 703-527-3887 (International); CCN836180 *** Contact manufacturer for all non-emergency calls.

Section 2. Hazards Identification

Emergency Overview

Appearance/Odor: Clear, straw colored liquid, mild odor. FLAMMABLE LIQUIDS - Category 3, H226 Classification:

ACUTE TOXICITY; ORAL - Category 3, H301 ACUTE TOXICITY; DERMAL – Category 3, H311

ACUTE TOXICITY; INHALATION - Category 3, H331

GHS label elements

DANGER Signal word:

H226: Flammable liquid and vapor. Hazard statements:

H301: Toxic if swallowed.

H311: Toxic in contact with skin.

H331: Toxic if inhaled.

Hazard pictograms:



Precautionary statements

Prevention: P210: Keep away from heat/sparks/open flames/hot surfaces. –

No smoking.

Section 2. Hazards Identification

Prevention (cont.): P233: Keep container tightly closed.

P240: Ground/Bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge. P261: Avoid breathing mists/fumes/gases/vapors/sprays.

P264: Wash skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/ protective clothing/ eye protection/

face protection.

P301 + P310: IF SWALLOWED: Call a POISON CENTER or Response:

doctor/physician.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353: IF ON SKIN (or hair): Remove/take off

immediately all contaminated clothing. Rinse skin with

water/shower.

P304 + P340: IF INHALED: Remove victim to fresh air and keep at

rest in a position comfortable for breathing.

P311: Call a POISON CENTER or doctor/physician.

P330: Rinse mouth.

P361 + P363: Remove/Take off immediately all contaminated

clothing. Wash before reuse.

P370 + P378: In case of fire: Use water spray, foam, carbon

dioxide or dry chemical for extinction.

P403 + P233 + P235: Store in a well ventilated place. Keep Storage:

container tightly closed. Keep cool.

P405: Store locked up.

P501: Dispose of contents/ container to an approved wasted Disposal:

disposal plant.

None. General:

This material is considered hazardous by the OSHA Hazard OSHA/HCS status:

Communication Standard (29 CFR 1910.1200).

Hazards not otherwise

classified:

None known.

Section 3. Composition/Information on Ingredients

Substances

: Tetravinylstannane. **Synonyms**

: C₈H₁₂Sn **Formula**

Molecular weight : 226.89 g/mol CAS-No. : 1112-56-7

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Section 3. Composition/Information on Ingredients

Ingredient Name	%	CAS Number
Tetravinyltin	>95	1112-56-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First Aid Measures

Description of Necessary First Aid Measures

General Advice: Move out of dangerous area. Do not breathe sprays/mists/fumes/gases/vapors.

Do not get in eyes, on skin, or on clothing. Call a POISON CENTER or doctor/physician immediately. Show this safety data sheet to the doctor in

attendance.

Eye Contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and

lower eyelids. Check for and remove any contact lenses. Continue rinsing. Call

a POISON CENTER or doctor/physician immediately.

Skin Contact: Immediately remove shoes and all contaminated clothing. Wash off

contaminated skin with soap and plenty of water. Call a POISON CENTER or

doctor/physician immediately.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for

breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Use a barrier to give mouth to mouth resuscitation. If unconscious, place in

recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Call a

POISON CENTER or doctor/physician immediately.

Ingestion: Rinse mouth. Do NOT induce vomiting. Remove dentures if any. If vomiting

occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in

recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Call a

physician or POISON CONTROL CENTER immediately.

Most Important Symptoms/Effects, Acute And Delayed Potential Acute Health Effects

Eye Contact: May cause severe irritation. The onset of symptoms may not occur until several

hours after exposure. Symptoms may include stinging, tearing, redness, swelling

and blurred vision.

Section 4. First Aid Measures

Inhalation: Toxic if inhaled and may result in permanent injury and possibly death through

> prolonged exposure. Symptoms which may develop after an initial latency period may include nasal irritation, severe headaches, respiratory irritation, and visual disturbances including photophobia and physic disturbances. Damage may be

permanent.

Skin Contact: Product is toxic in contact with skin. May cause skin irritation. Organotins may

be absorbed through the skin. Prolonged contact with skin may result in

necrosis, edema and/or inflammation of the exposed tissues. Absorbed product

may be expected to produce the same effects as inhaled product.

Product is toxic if swallowed. Some product may be expected to be absorbed Ingestion:

through the digestive system which may result in symptoms similar to those seen

in inhaled product.

Chronic General signs of toxicity for tetravinyltins include muscular weakness and

Symptoms: paralysis leading to respiratory failure, tremors, convulsive movements, closure

of eyelids and photophobia.

Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Poisoning by the product may initially be asymptomatic. **Notes to Physician:**

Specific Treatments: No specific treatment.

Protection of First Responders: No action taken shall be taken involving any personal risk

> without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire Fighting Measures

Fire may produce irritating and/or harmful gases. General Hazards:

Use water spray, alcohol resistant foam, dry chemical or **Suitable Extinguishing Media:**

carbon dioxide (CO_2) .

Use of a water stream may be ineffective. **Unsuitable Extinguishing Media:**

Unusual Fire and Explosion If product is involved in a fire, irritating fumes and organic

acid vapors may develop when product is exposed to elevated Hazards:

temperatures, water or flames. Product is flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to a source of

ignition and flashback.

Product of Combustion: Decomposition products may include carbon oxides (CO_X) and

tin oxides.

Section 5. Fire Fighting Measures

Protection of Firefighters:

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire-fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode. Avoid contact with skin and eyes. Do not breathe mists, sprays, vapors, gases or fumes.

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-emergency Personnel:

No action shall be taken involving any personal risk or without suitable training. Remove all sources of ignition – NO SMOKING. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid inhalation of sprays, mists, aerosols, gases and vapors. Provide adequate ventilation. Wear respiratory protection. Put on appropriate personal protective equipment.

For Emergency Responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Environmental Precautions:

Do not allow dispersal of spilled material and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for Containment

Small/Large Spill:

Remove all sources of ignition. Use spark-proof tools and explosion proof equipment. Prevent further spillage or leakage if safe to do so. Contain and collect spillage with an inert, absorbent material (e.g. - sand, sawdust, diatomite, acid binders, universal binders) and place in a sealed waste disposal container. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions: Avoid contact with skin, eyes and clothing. Avoid the formation

> of aerosols and the inhalation of mists, sprays, vapors and gases. Do not ingest. Ensure adequate ventilation. Keep away from all sources of ignition - NO SMOKING. Take measures to avoid buildup of electrostatic charge. All equipment used must be grounded. Use only spark-proof tools and explosion-proof

equipment.

Put on appropriate personal protective equipment (see Section **Protective Measures:**

> 8). Keep in the original container kept tightly closed when not in use. Empty containers retain product residue and can be

hazardous. Do not reuse container.

General Occupational Hygiene: Eating, drinking and smoking should be prohibited in areas

> where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective

> equipment before entering eating areas. See also Section 8 for

additional information on hygiene measures.

Store in original container protected from direct sunlight in a Safe Storage Conditions: dry, cool and well-ventilated area, away from incompatible

materials (oxidizing agents, direct sunlight) and food and drink. Keep container tightly closed and sealed until ready for use.

Store locked up.

Section 8. Exposure Controls/Personal Protection

Introductory Remarks:

These recommendations provide general guidance for handling this product. Because work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and

conduct regular repairs. Waste from these procedures should

be handled in accordance with Section 13.

Occupational Exposure Limits

List	Components	CAS-No.	Туре	Value
ACGIH	Tetravinyltin	1112-56-7	TLV	0.1 mg/m³ (TWA) Sn 0.2 mg/m³ (STEL) Sn
OSHA Z1	Tetravinyltin	1112-56-7	PEL	0.1 mg/m³ (TWA) Sn

Engineering Controls:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Provide an eyewash/shower station.

Section 8. Exposure Controls/Personal Protection

Environmental Exposure Controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual Protection Measures

Hygiene Measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Remove all soiled and contaminated clothing immediately. Do not inhale mists, sprays, gases, vapors or aerosols. Avoid contact with eyes and skin. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/Face Protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, or gases. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles, faceshield (8-inch minimum). Refer to 29 CFR 1910.133, ANSI Z87.1, or European Standard EN166.

Skin Protection Hand Protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Chemical-resistant gloves.

Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. For full contact, wear gloves made from Neoprene or nitrile rubber.

Section 8. Exposure Controls/Personal Protection

Other Skin Protection: Appropriate footwear and any additional skin protection

measures should be selected based on the task being

performed and the risks involved and should be approved by a

specialist before handling this product.

Respiratory Protection: Where risk assessment shows air-purifying respirators are

> appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) 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).

Section 9. Physical and Chemical Properties

Physical State: Liquid.

Color: Clear, colorless to straw colored.

Mild. Odor:

Freezing Point:

Odor Threshold: No data available. No data available. :Ha <0 °C (32 °F).

160 - 163 °C (320 - 325.4 °F). **Boiling Point:**

40 °C (104 °F) – closed cup. Flash Point:

No data available. **Auto-ignition temperature:** 1.246 g/ml @ 25 °C. **Relative Density: Vapor Pressure:** 17 mm Hg @ 56 °C.

7.8 (Air = 1.0).Vapor Density:

Insoluble. Water Solubility: < 1%. **VOC Content:**

VOCs are calculated following the requirements under 40 CFR, Part 59, Subpart C for Consumer Products and Subpart D for Architectural Coatings.

Section 10. Stability and Reactivity

No additional data available. Reactivity:

Chemical Stability: Stable at normal ambient temperature and pressure and

under recommended storage conditions.

Conditions to Avoid: Direct sunlight in air causes slow degradation to a tin salt.

Strong oxidizing agents. **Incompatible Materials:**

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Section 10. Stability and Reactivity

Hazardous Decomposition Products:

Carbon oxides, tin oxides, organic acid vapors.

Possibility of Hazardous Reactions:

Under normal conditions of storage and use, hazardous

reactions will not occur.

Section 11. Toxicological Information

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Acute Toxicity

Irritation/Corrosion

Sensitization

Germ Cell Mutagenicity

Carcinogenity

IARC

ACGIH

OSHA

Reproductive Toxicity

Teratogenicity

Specific Target Organ Toxicity (single exposure)

Specific Target Organ Toxicity

(repeated exposure)

Aspiration Hazard

Information on the likely

routes of exposure

: No specific data available. Product is toxic if inhaled, ingested or in contact with skin.

: No specific data available. Product may be irritating in

contact with the skin.

: No specific data available.

: No effects known.

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

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

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

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

: This product is not expected to cause reproductive or developmental effects.

: No specific data available.

Section 11. Toxicological Information

Additional Information (cont.)

: General signs of toxicity for overexposure to tetraalkyl tin compounds include muscular weakness and paralysis, leading to respiratory failure, tremors, convulsive movements, closure of the eyelids, and photophobia. Histologically, tetraalkyl tin compounds show a decrease in cytoplasmic basophilia of the liver, chromatolysis of the Purkinje cells of the cerebellum, and increase in the water content of the brain and spinal cord., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12. Ecological Information

Numerical Measures of Toxicity

Aquatic Toxicity

Persistence and Degradability

Biodegradability

Bioaccumulative potential

Mobility in soil

Other Adverse Effects

- : No specific data available.
- : This substance may be hazardous to the environment and may cause long lasting and harmful effects to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13. Disposal Considerations

Waste Treatment Methods

Product Dispose of in accordance with local, state, and federal

regulations. Refer to 40 CFR 260-299 for complete waste

disposal regulations. Consult your local, state, or federal agency

before disposing of any chemicals.

Contaminated packaging

Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Keep product and container away from heat and all ignition sources. Dispose of in the same manner as unused product.

Section 14. Transport Information

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	DOT	IMDG	IATA
UN Number	UN 2929	UN 2929	UN 2929
UN Proper Shipping Name	Toxic liquids,	TOXIC LIQUIDS,	Toxic liquids,
	flammable, organic,	FLAMMABLE,	flammable, organic,
	n.o.s. (Tetravinyltin)	ORGANIC, N.O.S.	n.o.s. (Tetravinyltin)
		(TetravinyItin)	
Transport Hazard Classes	6.1 (3)	6.1 (3)	6.1 (3)
Packing Group	П	II	П
Environmental Hazards	-	-	-
Additional Information	-	EMS No: F-E, S-D	-

Special Precautions for User

: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transporting in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

Section 15. Regulatory Information

TSCA (Toxic Substance Control Act):

This product is not listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory). Use of this product is restricted to research and development only. This product must be used under the supervision of a technically qualified individual as defined by the TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

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

Fire Hazard (Flammable Liquid), Acute Health Hazard (Acute Toxicity – Ingestion, Inhalation, Dermal).

Massachusetts Right to Know Components

No components are subject to Massachusetts Right to Know Act.

Pennsylvania Right to Know Components

No components are subject to Pennsylvania Right to Know Act.

Section 15. Regulatory Information

New Jersey Right to Know Components

No components are subject to New Jersey Right to Know Act.

California Proposition 65 Components

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

Section 16. Other Information

National Fire Protection Association (U.S.A.)



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Copyright © 2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

HMIS Rating

HEALTH	3
FLAMMABILITY	2
PHYSICAL HAZARD	0

History

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References : None available.

Section 16. Other Information

Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienists.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

DOT: US Department of Transportation.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

HMIS: Hazardous Materials Identification System. IARC: International Agency for Research on Cancer.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA). IDLH: Immediately Dangerous to Life or Health (US National Institute for Occupation Health and

Safety (NIOSH)).

IMDG: International Maritime Code for Dangerous Goods.

NFPA: National Fire Protection Association.

NIOSH: National Institute of Occupational Safety and Health.

NTP: National Toxicology Program.

OSHA: Occupational Safety and Health Administration. SARA: Superfund Amendments and Reauthorization Act.

VOC: Volatile Organic Compound.

Disclaimer

The information herein is believed to be accurate and is presented in good faith; however, no warranties or representations are made by Ereztech LLC regarding the accuracy or completeness of the information. Ereztech LLC shall not be liable for any damages resulting from the handling, or from the contact with the above product.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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