HEXAMETHYLDITIN

Safety Data Sheet SNH6120

Date of issue: 09/14/2015 Version: 1.0

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

1.1. Product identifier

Product form	:	Substance
Physical state	:	Solid
Substance name	:	HEXAMETHYLDITIN
Product code	:	SNH6120
Formula	:	C6H18Sn2
Synonyms	:	HEXAMETHYLDISTANNANE; TRIMETHYLTIN DIMER
Chemical family	:	ORGANOTIN

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

Use of the substance/mixture	:	Chemical intermediate For research use only

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number	:	CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Acute Tox. 2 (Oral) H300
Acute Tox. 2 (Dermal) H310

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS06

Signal word (GHS-US)	:	Danger
Hazard statements (GHS-US)	:	H300+H310 - Fatal if swallowed or in contact with skin
Precautionary statements (GHS-US)	:	P280 - Wear protective gloves/protective clothing/eye protection/face protection P262 - Do not get in eyes, on skin, or on clothing P264 - Wash hands thoroughly after handling P270 - Do not eat, drink or smoke when using this product P330 - Rinse mouth P301+P310 - If swallowed: Immediately call a POISON CENTER P310 - Immediately call a POISON CENTER P321 - Specific treatment (see first aid instructions on this label) P361 - Take off immediately all contaminated clothing P363 - Wash contaminated clothing before reuse P405 - Store locked up P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Multi-constituent
Name : HEXAMETHYLDITIN
CAS No : 661-69-8
EC no : 211-549-2

Name	Product identifier	%	Classification (GHS-US)
Hexamethyldistannane	(CAS No) 661-69-8	95 - 100	Acute Tox. 2 (Oral), H300 Acute Tox. 2 (Dermal), H310
Other Organotins		0 - 5	Not classified

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label. Call a POISON CENTER or doctor/physician.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get immediate medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : At low levels exposure to the related compound, trimethylchlorotin, may produce coughing, headache and nausea. At higher levels trimethylchlorotin has been reported to cause cerebral edema. Human fatalities have been reported from exposure to trimethylchlorotin vapors. Laboratory animal studies have demonstrated neurotoxicity, decreases in oxidative phosphorylation associated with mitochondrial binding and inhibition of ATPase. May cause irritation to the respiratory tract.

Symptoms/injuries after skin contact : Fatal in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard. May cause skin irritation. Organotins may be absorbed through the skin.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Chronic symptoms : The related compound, trimethylchlorotin, is a cumulative toxin. Symptomatic manifestations can follow exposure up to five days. Reported symptoms include memory loss, exhibition of rage and anger, and reduction of sexual function.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physician: Application of corticosteroid creams has been effective in treating severe skin irritation. If blisters develop, they may require abrasion to promote healing.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : Do not use straight streams.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Advice for firefighters

Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

Other information : Extremely toxic. Self-contained breathing apparatus should be worn at all times to avoid inhalation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Use only in well ventilated areas.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Store in sealed containers in a manner consistent with safe-handling and regulatory requirements for a hazardous substance. Store locked up.

Incompatible materials : Oxidizing agent. Direct sunlight.

Storage area : Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Organotins		
USA ACGIH	ACGIH TWA (mg/m³)	0.1 mg/m³ (Tin)

Hexamethyldistannane (661-69-8)		
USA ACGIH	ACGIH TWA (mg/m³)	0.1 mg/m³ as tin
USA ACGIH	ACGIH STEL (mg/m³)	0.2 mg/m³ as tin (skin)

8.2. Exposure controls

Appropriate engineering controls : Provide local exhaust or general room ventilation. Handle in an enclosing hood with exhaust ventilation. Insure that exhaust is vented properly- caustic scrubbing is recommended.

Personal protective equipment : Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection : Neoprene or nitrile rubber gloves.

Eye protection : Chemical goggles. Contact lenses should not be worn.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified combination organic vapor/acid gas (yellow cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Crystalline solid or clear liquid.

Molecular mass : 327.59 g/mol

Color	:	White.
Odor	:	Characteristic.
Odor threshold	:	No data available
Refractive index	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	23 - 24 °C
Freezing point	:	No data available
Boiling point	:	85 - 88 °C @ 45 mm Hg
Flash point	:	61 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	> 1
Relative density	:	1.57
Solubility	:	Insoluble in water.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Direct sunlight causes slow degradation to an inorganic tin salt.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Oxidizing agent. Direct sunlight.

10.6. Hazardous decomposition products

Organic acid vapors. Tin oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Fatal if swallowed. Dermal: Fatal in contact with skin.

HEXAMETHYLDITIN (661-69-8)	
ATE US (oral)	7.690 mg/kg body weight
ATE US (dermal)	53.800 mg/kg body weight

Hexamethyldistannane (661-69-8)	
LD50 oral rat	7690 µg/kg 25 mg/kg
LD50 dermal rabbit	53800 µg/kg
ATE US (oral)	7.690 mg/kg body weight
ATE US (dermal)	53.800 mg/kg body weight

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified

Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Potential Adverse human health effects and symptoms	:	The closely related compound, trimethylchlorotin, is listed on the EPA Extremely Hazardous Substance List. Human fatalities have been reported for workers inhaling vapors of trimethylchlorotin. Metabolic products of hexamethylditin are expected to be similar to trimethylchlorotin.
Symptoms/injuries after inhalation	:	At low levels exposure to the related compound, trimethylchlorotin, may produce coughing, headache and nausea. At higher levels trimethylchlorotin has been reported to cause cerebral edema. Human fatalities have been reported from exposure to trimethylchlorotin vapors. Laboratory animal studies have demonstrated neurotoxicity, decreases in oxidative phosphorylation associated with mitochondrial binding and inhibition of ATPase. May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact	:	Fatal in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard. May cause skin irritation. Organotins may be absorbed through the skin.
Symptoms/injuries after eye contact	:	May cause eye irritation.
Symptoms/injuries after ingestion	:	Fatal if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms	:	The related compound, trimethylchlorotin, is a cumulative toxin. Symptomatic manifestations can follow exposure up to five days. Reported symptoms include memory loss, exhibition of rage and anger, and reduction of sexual function.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects	:	This substance may be hazardous to the environment.
Effect on ozone layer	:	No additional information available
Effect on the global warming	:	No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	:	Do not dispose of waste into sewer.
Waste disposal recommendations	:	Dispose of solid materials or residues at a licensed site. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials	:	Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT)	:	2786
DOT NA no.		UN2786

14.2. UN proper shipping name

Proper Shipping Name (DOT)	:	Organotin pesticides, solid, toxic (HEXAMETHYLDITIN)
Department of Transportation (DOT) Hazard Classes	:	6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132

Hazard labels (DOT) : 6.1 - Poison

Packing group (DOT) : II - Medium Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : None

DOT Packaging Non Bulk (49 CFR 173.xxx) : 212

DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed ''on deck'' or ''under deck'' on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 40 - Stow ''clear of living quarters''

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

HEXAMETHYLDITIN (661-69-8)	
TSCA Exemption/Exclusion	CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

Hexamethyldistannane (661-69-8)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Hexamethyldistannane (661-69-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) Listed on NZIoC (New Zealand Inventory of Chemicals)

15.3. US State regulations

HEXAMETHYLDITIN(661-69-8)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

Other Organotins				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	No	No	No	

Hexamethyldistannane (661-69-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	No	No	No	

SECTION 16: Other information

Abbreviations and acronyms : Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemcial Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development.

Full text of H-phrases::

Acute Tox. 2 (Dermal)	Acute toxicity (dermal) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2
H300	Fatal if swallowed
H310	Fatal in contact with skin

HMIS III Rating

Health : 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

Flammability : 2 Moderate Hazard

Physical : 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 09/14/2015 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.