

**DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95****Safety Data Sheet SND2900**

Issue date: 08/08/2016

Revision date: 03/14/2022

Version: 1.2

SECTION 1: Identification**1.1. Identification**

| | |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name | : DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95 |
| Product code | : SND2900 |
| Product form | : Substance |
| Physical state | : Solid |
| Formula | : C ₂₄ H ₄₈ O ₄ Sn |
| Synonyms | : DIBUTYLTINDIOCTOATE STANNANE, DIBUTYLBIS[(2-ETHYL-1-OXOHEXYL)OXY]- DIBUTYLTIN DI-2-ETHYLHEXANOATE HEXANOIC ACID, 2-ETHYL-, 1,1'-(DIBUTYLSTANNYLENE) ESTER |
| Chemical family | : ORGANOTIN |

1.2. Recommended use and restrictions on use

| | |
|-----------------|-------------------------|
| Recommended use | : Chemical intermediate |
|-----------------|-------------------------|

1.3. Supplier**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: Hazard(s) identification**2.1. Classification of the substance or mixture****GHS US classification**

| | | |
|-----------------------------------------------|------|-------------------------------|
| Acute toxicity (oral) Category 3 | H301 | Toxic if swallowed |
| Skin corrosion/irritation Category 2 | H315 | Causes skin irritation |
| Serious eye damage/eye irritation Category 2A | H319 | Causes serious eye irritation |
| Full text of H statements : see section 16 | | |

2.2. GHS Label elements, including precautionary statements**GHS US labeling**

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H301 - Toxic if swallowed
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements (GHS US)

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

P330 - Rinse mouth.
P301+P310 - If swallowed: Immediately call a POISON CENTER.
P302+P352 - If on skin: Wash with plenty of soap and water.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention.
P321 - Specific treatment (see first aid instructions on this label).
P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to licensed waste disposal facility..

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Multi-constituent
Name : DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95
CAS-No. : 2781-10-4

| Name | Product identifier | % | GHS US classification |
|------------------------------------|--------------------|----------|-------------------------------------------------------------------------|
| Di-n-butylbis(2-ethylhexanoate)tin | CAS-No.: 2781-10-4 | 95 – 100 | Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 |
| Other Organotins | - | 0 – 5 | Not classified |

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

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.

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 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 medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes skin irritation. May be harmful in contact with skin. Organotins may be absorbed through the skin.

Symptoms/effects after eye contact : Causes serious eye irritation.

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

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

4.3. Immediate medical attention and special treatment, if necessary

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: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media : Do not use straight streams.

5.2. Specific hazards arising from the chemical

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

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

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 : 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 contact with skin and eyes. Do not breathe dust. Avoid dust formation. Provide local exhaust or general room ventilation to minimize exposure to dust.
Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

7.2. Conditions for safe storage, including any incompatibilities

| | |
|------------------------|-----------------------------------------------------------|
| Storage conditions | : Keep container tightly closed. Store locked up. |
| Incompatible materials | : Bases. Reducing agents. |
| Storage area | : Store in a well-ventilated place. Store away from heat. |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Organotins

USA - ACGIH - Occupational Exposure Limits

| | |
|---------------|------------------------------|
| ACGIH OEL TWA | 0.1 mg/m ³ as tin |
|---------------|------------------------------|

USA - OSHA - Occupational Exposure Limits

| | |
|--------------------|------------------------------|
| OSHA PEL (TWA) [1] | 0.1 mg/m ³ as tin |
|--------------------|------------------------------|

Di-n-butylbis(2-ethylhexanoate)tin (2781-10-4)

USA - ACGIH - Occupational Exposure Limits

| | |
|---------------|------------------------------|
| ACGIH OEL TWA | 0.1 mg/m ³ as tin |
|---------------|------------------------------|

USA - OSHA - Occupational Exposure Limits

| | |
|--------------------|------------------------------|
| OSHA PEL (TWA) [1] | 0.1 mg/m ³ as tin |
|--------------------|------------------------------|

8.2. Appropriate engineering controls

| | |
|----------------------------------|---------------------------------------------------------|
| Appropriate engineering controls | : Handle in an enclosing hood with exhaust ventilation. |
|----------------------------------|---------------------------------------------------------|

8.3. Individual protection measures/Personal protective equipment

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 dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------------------------|---------------------|
| Physical state | : Solid |
| Appearance | : Waxy. Flakes. |
| Molecular mass | : 519.34 g/mol |
| Color | : White. |
| Odor | : Characteristic. |
| Odor threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : 54 – 60 °C |
| Freezing point | : No data available |

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

| | |
|-------------------------------------------------|-----------------------------|
| Boiling point | : 215 – 220 °C @ 2 mm Hg |
| Flash point | : > 110 °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 | : No data available |
| Relative density | : 1.07 |
| Solubility | : Insoluble, reacts slowly. |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Partition coefficient n-octanol/water (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

Reacts with moisture in air and water, slowly releasing butanol and dibutyltin oxide. Direct sunlight causes degradation to an inorganic tin salt.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Bases. Reducing agents.

10.6. Hazardous decomposition products

Organic acid vapors. Tin oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|-----------------------------|-----------------------|
| Acute toxicity (oral) | : Toxic if swallowed. |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95 (2781-10-4)

| | |
|---------------|-----------------------|
| ATE US (oral) | 125 mg/kg body weight |
|---------------|-----------------------|

Di-n-butylbis(2-ethylhexanoate)tin (2781-10-4)

| | |
|--------------------|---------------------|
| LD50 oral rat | 125 mg/kg 136 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg |

| | |
|---------------------------|---------------------------|
| Skin corrosion/irritation | : Causes skin irritation. |
|---------------------------|---------------------------|

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

| | |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| STOT-repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Symptoms/effects after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/effects after skin contact | : Causes skin irritation. May be harmful in contact with skin. Organotins may be absorbed through the skin. |
| Symptoms/effects after eye contact | : Causes serious eye irritation. |
| Symptoms/effects after ingestion | : Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard. |
| Reason for classification | : Expert judgment |

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 the ozone layer | : No additional information available |

SECTION 13: Disposal considerations

13.1. Disposal methods

| | |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Sewage disposal recommendations | : Do not dispose of waste into sewer. |
| Product/Packaging disposal recommendations | : 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

In accordance with DOT / TDG / IMDG / IATA

| DOT | TDG | IMDG | IATA |
|-----------------------------------|----------------|------------------------------------------------------------------------|------------------------------------------------------------------------|
| 14.1. UN number | | | |
| Not applicable | Not applicable | 3146 | 3146 |
| 14.2. Proper Shipping Name | | | |
| Not applicable | Not applicable | ORGANOTIN COMPOUND, SOLID, N.O.S. (DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN) | Organotin compound, solid, n.o.s. (DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN) |

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

| DOT | TDG | IMDG | IATA |
|-----------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Transport document description | | | |
| Not applicable | Not applicable | UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN), 6.1, III, MARINE POLLUTANT | UN 3146 Organotin compound, solid, n.o.s. (DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN), 6.1, III |
| 14.3. Transport hazard class(es) | | | |
| Not applicable | Not applicable | 6.1 | 6.1 |
| | |   |  |
| 14.4. Packing group | | | |
| Not applicable | Not applicable | III | III |
| 14.5. Environmental hazards | | | |
| Not applicable | Not applicable | Dangerous for the environment: No Marine pollutant: Yes | Dangerous for the environment: No |
| No supplementary information available | | | |

14.6. Special precautions for user

DOT

No data available

TDG

Emergency Response Guide (ERG) Number : 153

IMDG

Special provision (IMDG) : 43, 223, 274
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
IBC packing instructions (IMDG) : IBC08
IBC special provisions (IMDG) : B3
Tank instructions (IMDG) : T1
Tank special provisions (IMDG) : TP33
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : A wide variety of toxic solids. Toxic if swallowed, by skin contact or by inhalation.

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y645
PCA limited quantity max net quantity (IATA) : 10kg
PCA packing instructions (IATA) : 670
PCA max net quantity (IATA) : 100kg
CAO packing instructions (IATA) : 677
CAO max net quantity (IATA) : 200kg
Special provision (IATA) : A3, A4, A6

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

ERG code (IATA)

: 6L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

| Name | CAS-No. | Listing | Commercial status | Flags |
|------------------------------------|-----------|-------------|-------------------|-------|
| Other Organotins | | Not present | - | |
| Di-n-butylbis(2-ethylhexanoate)tin | 2781-10-4 | Present | Active | |

15.2. International regulations

CANADA

Di-n-butylbis(2-ethylhexanoate)tin (2781-10-4)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Di-n-butylbis(2-ethylhexanoate)tin (2781-10-4)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Di-n-butylbis(2-ethylhexanoate)tin (2781-10-4)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Di-n-butylbis(2-ethylhexanoate)tin (2781-10-4)

U.S. - Massachusetts - Right To Know List

SECTION 16: Other information

Full text of H-phrases::

| | |
|------|-------------------------------|
| H301 | Toxic if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |

DI-n-BUTYLBIS(2-ETHYLHEXANOATE)TIN, tech-95

Safety Data Sheet

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.: Chemical 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; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Hazard Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical

: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

Issue date: 08/08/2016

Revision date: 03/14/2022

Version: 1.2

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.

© 2020 Gelest Inc. Morrisville, PA 19067