

**TRI-n-BUTYLMETHOXYTIN**

Safety Data Sheet SNT8110

Issue date: 10/12/2015

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Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

| | |
|-----------------|--|
| Product form | : Substance |
| Physical state | : Liquid |
| Substance name | : TRI-n-BUTYLMETHOXYTIN |
| Product code | : SNT8110 |
| Formula | : C13H30OSn |
| Synonyms | : TRIBUTYL TIN METHOXIDE; TRIBUTYLMETHOXYSTANNANE; METHOXYTRIBUTYLSTANNANE; TRI-N-BUTYL TIN METHANOLATE |
| Chemical family | : ORGANOTIN |

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

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**GELEST INC.**Fritz-Klatte-Strasse 8
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info@gelestde.com - www.gelestde.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 according to Regulation (EC) No. 1272/2008 [CLP]**

| | |
|--|------|
| Acute toxicity (oral), Category 3 | H301 |
| Skin corrosion/irritation, Category 2 | H315 |
| Serious eye damage/eye irritation, Category 2 | H319 |
| Full text of H- and EUH-statements: see section 16 | |

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS06

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| | |
|--------------------------------|--|
| Signal word (CLP) | : Danger |
| Hazard statements (CLP) | : H301 - Toxic if swallowed. H315 - Causes skin irritation. H319 - Causes serious eye irritation. |
| Precautionary statements (CLP) | : 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. P330 - Rinse mouth. P501 - Dispose of contents/container to licensed waste disposal facility. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER. |

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|----------------|-------------------------|
| Substance type | : Multi-constituent |
| Name | : TRI-n-BUTYLMETHOXYTIN |
| CAS-No. | : 1067-52-3 |
| EC-No. | : 13-933-5 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-----------------------|---|----------|--|
| Tri-n-butylmethoxytin | (CAS-No.) 1067-52-3 (EC-No.) 213-933-5 | 95 – 100 | Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2, H319 |
| Other Organotins | | 0 – 5 | Not classified |

Full text of 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 person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice. |
| First-aid measures after skin contact | : Wash with plenty of 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/doctor. |

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

| | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/effects after skin contact | : Causes skin irritation. 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. |

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

No additional information available

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. |
|-------------|---|

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5.3. Advice for firefighters

- 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 all eye and skin contact and do not breathe vapour and mist.

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 liquid 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 vapour and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent formation of vapour.
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.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container tightly closed. Store locked up.
Incompatible materials : Direct sunlight. Oxidizing agent.
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 | | |
|-----------------------------------|------------------|------------------------------|
| Italy - Portugal - USA ACGIH | ACGIH OEL TWA | 0.1 mg/m ³ as tin |
| USA OSHA | OSHA PEL TWA [1] | 0.1 mg/m ³ as tin |
| Tri-n-butylmethoxytin (1067-52-3) | | |
| Italy - Portugal - USA ACGIH | ACGIH OEL TWA | 0.1 mg/m ³ as tin |

8.2. Exposure controls

Appropriate engineering controls:

Handle in an enclosing hood with exhaust ventilation.

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

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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 | : Liquid |
| Appearance | : Clear liquid. |
| Molecular mass | : 321.07 g/mol |
| Colour | : Straw. |
| Odour | : Mild. |
| Odour threshold | : No data available |
| Refractive index | : 1.4745 |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : < 0 °C |
| Boiling point | : 97 °C @ 0.6 mm Hg |
| Flash point | : 98 °C |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : < 0.01 mm Hg @ 20°C |
| Relative vapour density at 20 °C | : > 1 |
| Relative density | : 1.169 |
| Solubility | : Insoluble in water. |
| 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 |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Tri-n-butylmethoxytin hydrolyzes in the presence of moisture, forming methanol and bis(tri-n-butyl)oxide. Direct sunlight causes slow degradation to an inorganic tin salt.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Direct sunlight. Oxidizing agent.

10.6. Hazardous decomposition products

Organic acid vapors. Methanol. Tin oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Toxic if swallowed.

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TRI-n-BUTYLMETHOXYTIN (1067-52-3)

ATE CLP (oral) 100 mg/kg bodyweight

Tri-n-butylmethoxytin (1067-52-3)

ATE CLP (oral) 100 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : 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. 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

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

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. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment 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

14.1. UN number

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number

UN-No. (ADR) : 2788

UN-No. (IMDG) : 2788

UN-No. (IATA) : 2788

UN-No. (ADN) : 2788

UN-No. (RID) : 2788

14.2. UN proper shipping name

Proper Shipping Name (ADR) : ORGANOTIN COMPOUND, LIQUID, N.O.S.

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| | |
|---------------------------------------|--|
| Proper Shipping Name (IMDG) | : ORGANOTIN COMPOUND, LIQUID, N.O.S. |
| Proper Shipping Name (IATA) | : Organotin compound, liquid, n.o.s. |
| Proper Shipping Name (ADN) | : ORGANOTIN COMPOUND, LIQUID, N.O.S. |
| Proper Shipping Name (RID) | : ORGANOTIN COMPOUND, LIQUID, N.O.S. |
| Transport document description (ADR) | : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TRI-n-BUTYLMETHOXYTIN), 6.1, III, (E) |
| Transport document description (IMDG) | : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TRI-n-BUTYLMETHOXYTIN), 6.1, III, MARINE POLLUTANT |
| Transport document description (IATA) | : UN 2788 Organotin compound, liquid, n.o.s. (TRI-n-BUTYLMETHOXYTIN), 6.1, III |
| Transport document description (ADN) | : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TRI-n-BUTYLMETHOXYTIN), 6.1, III |
| Transport document description (RID) | : UN 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (TRI-n-BUTYLMETHOXYTIN), 6.1, III |

14.3. Transport hazard class(es)

ADR

| | |
|----------------------------------|-------|
| Transport hazard class(es) (ADR) | : 6.1 |
| Danger labels (ADR) | : 6.1 |



IMDG

| | |
|-----------------------------------|-------|
| Transport hazard class(es) (IMDG) | : 6.1 |
| Danger labels (IMDG) | : 6.1 |



IATA

| | |
|-----------------------------------|-------|
| Transport hazard class(es) (IATA) | : 6.1 |
| Danger labels (IATA) | : 6.1 |



ADN

| | |
|----------------------------------|-------|
| Transport hazard class(es) (ADN) | : 6.1 |
| Danger labels (ADN) | : 6.1 |



RID

| | |
|----------------------------------|-------|
| Transport hazard class(es) (RID) | : 6.1 |
| Danger labels (RID) | : 6.1 |



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14.4. Packing group


| | |
|----------------------|-------|
| Packing group (ADR) | : III |
| Packing group (IMDG) | : III |
| Packing group (IATA) | : III |
| Packing group (ADN) | : III |
| Packing group (RID) | : III |

14.5. Environmental hazards

| | |
|-------------------------------|--|
| Dangerous for the environment | : No |
| Marine pollutant | : Yes (IMDG only) |
| Other information | : No supplementary information available |

14.6. Special precautions for user

- Overland transport

| | |
|---|---|
| Classification code (ADR) | : T3 |
| Special provisions (ADR) | : 43, 274 |
| Limited quantities (ADR) | : 5I |
| Excepted quantities (ADR) | : E1 |
| Packing instructions (ADR) | : P001, IBC03, LP01, R001 |
| Mixed packing provisions (ADR) | : MP19 |
| Portable tank and bulk container instructions (ADR) | : T7 |
| Portable tank and bulk container special provisions (ADR) | : TP2, TP28 |
| Tank code (ADR) | : L4BH |
| Tank special provisions (ADR) | : TU15, TE19 |
| Vehicle for tank carriage | : AT |
| Transport category (ADR) | : 2 |
| Special provisions for carriage - Packages (ADR) | : V12 |
| Special provisions for carriage - Loading, unloading and handling (ADR) | : CV13, CV28 |
| Special provisions for carriage - Operation (ADR) | : S9 |
| Hazard identification number (Kemler No.) | : 60 |
| Orange plates | :  |
| Tunnel restriction code (ADR) | : E |
| EAC code | : 2X |
| APP code | : B |

- Transport by sea

| | |
|------------------------------------|--|
| Special provisions (IMDG) | : 43, 223, 274 |
| Limited quantities (IMDG) | : 5 L |
| Excepted quantities (IMDG) | : E1 |
| Packing instructions (IMDG) | : P001, LP01 |
| IBC packing instructions (IMDG) | : IBC03 |
| Tank instructions (IMDG) | : T7 |
| Tank special provisions (IMDG) | : TP2, TP28 |
| EmS-No. (Fire) | : F-A |
| EmS-No. (Spillage) | : S-A |
| Stowage category (IMDG) | : A |
| Stowage and handling (IMDG) | : SW2 |
| Properties and observations (IMDG) | : A wide variety of toxic liquids. Toxic if swallowed, by skin contact or by inhalation. |

- Air transport

| | |
|--------------------------------|------|
| PCA Excepted quantities (IATA) | : E1 |
|--------------------------------|------|

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| | |
|--|--------------|
| PCA Limited quantities (IATA) | : Y642 |
| PCA limited quantity max net quantity (IATA) | : 2L |
| PCA packing instructions (IATA) | : 655 |
| PCA max net quantity (IATA) | : 60L |
| CAO packing instructions (IATA) | : 663 |
| CAO max net quantity (IATA) | : 220L |
| Special provisions (IATA) | : A3, A4, A6 |
| ERG code (IATA) | : 6L |

- Inland waterway transport

| | |
|-----------------------------------|------------------|
| Classification code (ADN) | : T3 |
| Special provisions (ADN) | : 43, 274, 802 |
| Limited quantities (ADN) | : 5 L |
| Excepted quantities (ADN) | : E1 |
| Equipment required (ADN) | : PP, EP, TOX, A |
| Ventilation (ADN) | : VE02 |
| Number of blue cones/lights (ADN) | : 0 |

- Rail transport

| | |
|---|---------------------------|
| Classification code (RID) | : T3 |
| Special provisions (RID) | : 43, 274 |
| Limited quantities (RID) | : 5L |
| Excepted quantities (RID) | : E1 |
| Packing instructions (RID) | : P001, IBC03, LP01, R001 |
| Mixed packing provisions (RID) | : MP19 |
| Portable tank and bulk container instructions (RID) | : T7 |
| Portable tank and bulk container special provisions (RID) | : TP2, TP28 |
| Tank codes for RID tanks (RID) | : L4BH |
| Special provisions for RID tanks (RID) | : TU15 |
| Transport category (RID) | : 2 |
| Special provisions for carriage – Packages (RID) | : W12 |
| Special provisions for carriage - Loading, unloading and handling (RID) | : CW13, CW28, CW31 |
| Colis express (express parcels) (RID) | : CE8 |
| Hazard identification number (RID) | : 60 |

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

TRI-n-BUTYLMETHOXYTIN is not on the REACH Candidate List

TRI-n-BUTYLMETHOXYTIN is not on the REACH Annex XIV List

TRI-n-BUTYLMETHOXYTIN is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

TRI-n-BUTYLMETHOXYTIN is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

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Regulatory reference : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : TRI-n-BUTYLMETHOXYTIN is listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : TRI-n-BUTYLMETHOXYTIN is listed

Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

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.: 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

Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

| | |
|---------------------|---|
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Eye Irrit. 2 | Serious eye damage/eye irritation, Category 2 |
| H301 | Toxic if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| Skin Irrit. 2 | Skin corrosion/irritation, Category 2 |

SDS EU (REACH Annex II) - Custom

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