

DIMETHYLAMINOTRI-n-BUTYL TIN

Safety Data Sheet SND3550

Date of issue: 26/04/2018

Version: 1.0

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

| | |
|-----------------|------------------------------------------------------------|
| Product form | : Substance |
| Physical state | : Liquid |
| Substance name | : DIMETHYLAMINOTRI-n-BUTYL TIN |
| Product code | : SND3550 |
| Formula | : C14H33NSn |
| Synonyms | : TRIBUTYLINDIMETHYLAMIDE TRIBUTYLDIMETHYLAMINOSTANNANE |
| 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
65933 Frankfurt**Germany**

T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM

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]**

| | |
|-------------------------------------------------------------------|------|
| Skin corrosion/irritation, Category 1C | H314 |
| Serious eye damage/eye irritation, Category 1 | H318 |
| Hazardous to the aquatic environment — Acute Hazard, Category 1 | H400 |
| Hazardous to the aquatic environment — Chronic Hazard, Category 1 | H410 |
| Full text of H 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) :



GHS05

GHS09

Signal word (CLP) :

: Danger

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| | |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hazard statements (CLP) | : H314 - Causes severe skin burns and eye damage. H410 - Very toxic to aquatic life with long lasting effects. |
| Precautionary statements (CLP) | : P280 - Wear protective gloves/protective clothing/eye protection/face protection. P264 - Wash hands thoroughly after handling. P273 - Avoid release to the environment. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. 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 |

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

| | |
|----------------|-------------------------------|
| Substance type | : Multi-constituent |
| Name | : DIMETHYLAMINOTRI-n-BUTYLTIN |
| CAS-No. | : 1067-24-9 |

| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-----------------------------|---------------------|----------|---------------------------------------------------------------------------------------------|
| Dimethylaminotri-n-butyltin | (CAS-No.) 1067-24-9 | 95 - 100 | Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 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 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/effects | : Causes severe skin burns and eye damage. |
| Symptoms/effects after inhalation | : May cause irritation to the respiratory tract. |
| Symptoms/effects after skin contact | : Causes (severe) skin burns. Organotins may be absorbed through the skin. |
| Symptoms/effects after eye contact | : A severe eye irritant. Causes serious eye damage. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. |

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

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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

Avoid release to the environment. 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 : Collect spillage. Clean up any spills as soon as possible, using an absorbent material to collect it.

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. 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 : Acids. Direct sunlight. Oxidizers.
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 TWA (mg/m ³) | 0.1 mg/m ³ as tin |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ as tin |
| Dimethylaminotri-n-butyltin (1067-24-9) | | |
| Italy - Portugal - USA ACGIH | ACGIH TWA (mg/m ³) | 0.1 mg/m ³ as tin |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 0.1 mg/m ³ as tin |

8.2. Exposure controls

Appropriate engineering controls:

Provide local exhaust or general room 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:

Impervious gloves such as neoprene or nitrile rubber gloves

Eye protection:

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, use full face NIOSH-certified respirator with APF of 50; organic vapor/amine gas (brown cartridge) is recommended, if air-purifying respirator selected.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--------------------------------------------|------------------------------------------|
| Physical state | : Liquid |
| Appearance | : Liquid. |
| Molecular mass | : 334.11 g/mol |
| Colour | : Colorless to pale yellow. |
| Odour | : characteristic. |
| Odour threshold | : No data available |
| Refractive index | : 1.4737 |
| pH | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : < 0 °C |
| Freezing point | : No data available |
| Boiling point | : 86 °C @ 0.1 mm Hg |
| Flash point | : 115 °C TCC |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : < 0.01 mm Hg |
| Relative vapour density at 20 °C | : > 1 |
| Relative density | : 1.08 |
| Solubility | : Insoluble in water. Reacts with 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 |
| Oxidising properties | : No data available |
| Explosive 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 degradation to an inorganic tin salt. In contact with water and moisture in air liberates dimethylamine.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. Direct sunlight. Oxidizers.

10.6. Hazardous decomposition products

Dimethylamine. Organic acid vapors. Tin oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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| | |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Skin corrosion/irritation | : Causes severe skin burns and eye damage. |
| Serious eye damage/irritation | : Causes serious eye damage. |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| | None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen. |
| 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 (severe) skin burns. Organotin may be absorbed through the skin. |
| Symptoms/effects after eye contact | : A severe eye irritant. Causes serious eye damage. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. |

SECTION 12: Ecological information

12.1. Toxicity

| | |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecology - general | : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. This material is toxic to wildlife and fish. This material is acutely toxic to aquatic life if released to open waters. |
| Acute aquatic toxicity | : Very toxic to aquatic life. |
| Chronic aquatic toxicity | : Very toxic to aquatic life with long lasting effects. |

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

No additional information available

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 / RID / IMDG / IATA / ADN

14.1. UN number

| | |
|---------------|--------|
| UN-No. (ADR) | : 1760 |
| UN-No. (IMDG) | : 1760 |
| UN-No. (IATA) | : 1760 |
| UN-No. (ADN) | : 1760 |
| UN-No. (RID) | : 1760 |

14.2. UN proper shipping name

| | |
|-----------------------------|----------------------------|
| Proper Shipping Name (ADR) | : CORROSIVE LIQUID, N.O.S. |
| Proper Shipping Name (IMDG) | : CORROSIVE LIQUID, N.O.S. |
| Proper Shipping Name (IATA) | : Corrosive liquid, n.o.s. |
| Proper Shipping Name (ADN) | : CORROSIVE LIQUID, N.O.S. |
| Proper Shipping Name (RID) | : CORROSIVE LIQUID, N.O.S. |

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| | |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Transport document description (ADR) | : UN 1760 CORROSIVE LIQUID, N.O.S. (DIMETHYLAMINOTRI-n-BUTYL TIN), 8, III, (E), ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IMDG) | : UN 1760 CORROSIVE LIQUID, N.O.S. (DIMETHYLAMINOTRI-n-BUTYL TIN), 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS |
| Transport document description (IATA) | : UN 1760 Corrosive liquid, n.o.s. (DIMETHYLAMINOTRI-n-BUTYL TIN), 8, III, ENVIRONMENTALLY HAZARDOUS |
| Transport document description (ADN) | : UN 1760 CORROSIVE LIQUID, N.O.S. (DIMETHYLAMINOTRI-n-BUTYL TIN), 8, III, ENVIRONMENTALLY HAZARDOUS |
| Transport document description (RID) | : UN 1760 CORROSIVE LIQUID, N.O.S. (DIMETHYLAMINOTRI-n-BUTYL TIN), 8, III, ENVIRONMENTALLY HAZARDOUS |

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8
Danger labels (ADR) : 8



IMDG

Transport hazard class(es) (IMDG) : 8
Danger labels (IMDG) : 8



IATA

Transport hazard class(es) (IATA) : 8
Hazard labels (IATA) : 8



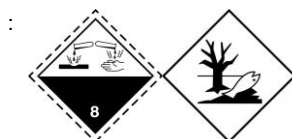
ADN

Transport hazard class(es) (ADN) : 8
Danger labels (ADN) : 8



RID

Transport hazard class(es) (RID) : 8
Danger labels (RID) : 8



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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 | : Yes |
| Marine pollutant | : Yes |
| Other information | : No supplementary information available |

14.6. Special precautions for user

- Overland transport

| | |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------|
| Classification code (ADR) | : C9 |
| Special provisions (ADR) | : 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) | : TP1, TP28 |
| Tank code (ADR) | : L4BN |
| Vehicle for tank carriage | : AT |
| Transport category (ADR) | : 3 |
| Special provisions for carriage - Packages (ADR) | : V12 |
| Hazard identification number (Kemler No.) | : 80 |
| Orange plates | :  |
| Tunnel restriction code (ADR) | : E |
| EAC code | : 2X |
| APP code | : B |

- Transport by sea

| | |
|------------------------------------|----------------------------------------------------|
| Special provisions (IMDG) | : 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) | : TP1, TP28 |
| EmS-No. (Fire) | : F-A |
| EmS-No. (Spillage) | : S-B |
| Stowage category (IMDG) | : A |
| Stowage and handling (IMDG) | : SW2 |
| Properties and observations (IMDG) | : Causes burns to skin, eyes and mucous membranes. |

- Air transport

| | |
|----------------------------------------------|--------|
| PCA Excepted quantities (IATA) | : E1 |
| PCA Limited quantities (IATA) | : Y841 |
| PCA limited quantity max net quantity (IATA) | : 1L |
| PCA packing instructions (IATA) | : 852 |
| PCA max net quantity (IATA) | : 5L |
| CAO packing instructions (IATA) | : 856 |
| CAO max net quantity (IATA) | : 60L |

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Special provisions (IATA) : A3
ERG code (IATA) : 8L

- Inland waterway transport

Classification code (ADN) : C9
Special provisions (ADN) : 274
Limited quantities (ADN) : 5 L
Excepted quantities (ADN) : E1
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

- Rail transport

Classification code (RID) : C9
Special provisions (RID) : 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) : TP1, TP28
Tank codes for RID tanks (RID) : L4BN
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Colis express (express parcels) (RID) : CE8
Hazard identification number (RID) : 80

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

Not applicable

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

DIMETHYLAMINOTRI-n-BUTYLTIN is not on the REACH Candidate List

DIMETHYLAMINOTRI-n-BUTYLTIN is not on the REACH Annex XIV List

DIMETHYLAMINOTRI-n-BUTYLTIN 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.

DIMETHYLAMINOTRI-n-BUTYLTIN is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

15.1.2. National regulations

Germany

12th Ordinance Implementing the Federal Immission Control Act - 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

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

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

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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:

| | |
|-------------------|-------------------------------------------------------------------|
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Skin Corr. 1C | Skin corrosion/irritation, Category 1C |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

SDS EU (REACH Annex II) - Custom

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