

1 Identification

Product identifier

Product name: n-Butyltin trichloride

Stock number: 71125

CAS Number:
1118-46-3

EC number:
214-263-6

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar
 Thermo Fisher Scientific Chemicals, Inc.
 30 Bond Street
 Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS08 Health hazard

STOT RE 1 H372 Causes damage to the kidneys, the liver, the respiratory system, the blood, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

H227 Combustible liquid.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS05 GHS07 GHS08

Signal word

Danger

Hazard statements

H227 Combustible liquid.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H372 Causes damage to the kidneys, the liver, the respiratory system, the blood, the endocrine system and the immune system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

B3 - Combustible liquid

D2A - Very toxic material causing other toxic effects

E - Corrosive material



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 3 Health (acute effects) = 3

FIRE 2 Flammability = 2

REACTIVITY 1 Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Product name: n-Butyltin trichloride

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3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

1118-46-3 n-Butyltin trichloride

Identification number(s):

EC number: 214-263-6

4 First-aid measures

Description of first aid measures

General information Immediately remove any clothing soiled by the product.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed

Causes severe skin burns.

Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released:

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards: Keep away from ignition sources.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Precautions for safe handling

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires: Keep ignition sources away.

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Store away from water/moisture.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from humidity and water.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:

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

Components with limit values that require monitoring at the workplace:

(Contd. on page 3)
USA

Product name: **n-Butyltin trichloride**

(Contd. of page 2)

Tin, organic compounds, as Sn

ACGIH TLV	0.1; 0.2-STEL (skin)
	Not classified as a human carcinogen
Austria MAK	0.1 (skin)
Belgium TWA	0.1 (skin)
Denmark TWA	0.1 (skin)
France VME	0.1; 0.2-VLE
Germany MAK	0.1 (skin)
Hungary	0.1-STEL (skin)
Netherlands MAC-TGG	0.1; 0.2-MAC-K (skin)
Norway TWA	0.1
Switzerland MAK-W	0.1; 0.2-KZG-W (skin)
United Kingdom	0.1; 0.2-STEL (skin)
USA PEL	0.1

Control parameters

Components with limit values that require monitoring at the workplace:

Tin, organic compounds, as Sn

ACGIH TLV	0.1; 0.2-STEL (skin)
	Not classifiable as a human carcinogen
Austria MAK	0.1 (skin)
Belgium TWA	0.1 (skin)
Denmark TWA	0.1 (skin)
Finland TWA	0.1; 0.3-STEL (skin)
France VME	0.1
Germany MAK	0.1 (skin)
Hungary	0.1-STEL (skin)
Korea TLV	0.1; 0.2-STEL (skin)
Norway TWA	0.1
Switzerland MAK-W	0.1; 0.2-KZG-W (skin)
United Kingdom	0.1; 0.2-STEL (skin)
USA PEL	0.1

Additional information: No data

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection:

Tightly sealed goggles

Full face protection

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Color:	Yellow
Odor:	Acrid
Odor threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	-63 °C (-81 °F)
Boiling point/Boiling range:	98 °C (208 °F) (10mm Hg)
Sublimation temperature / start:	Not determined

Flash point:	81 °C (178 °F)
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined
Upper:	Not determined
Vapor pressure at 93 °C (199 °F):	13 hPa (10 mm Hg)
Density at 20 °C (68 °F):	1.7 g/cm ³ (14.187 lbs/gal)
Relative density:	Not determined.
Vapor density:	Not determined.
Evaporation rate:	Not determined.
Solubility in / Miscibility with	
Water:	Reacts
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
dynamic:	Not determined.
kinematic:	Not determined.
Other information	No further relevant information available.

Product name: **n-Butyltin trichloride**

(Contd. of page 3)

10 Stability and reactivity

Reactivity No information known.

Chemical stability Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions Reacts with water

Conditions to avoid No further relevant information available.

Incompatible materials:

Bases

Oxidizing agents

Water/moisture

Hazardous decomposition products:

Hydrogen chloride (HCl)

Carbon monoxide and carbon dioxide

Toxic metal compounds

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Harmful in contact with skin.

Danger through skin absorption.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

LD/LC50 values that are relevant for classification:

Oral	LD50	2140 mg/kg (rat)
Irritation of skin	severe	0.75 mg/24H (rabbit)
Irritation of eyes	severe	50 µg/24H (rabbit)

Skin irritation or corrosion: Causes severe skin burns.

Eye irritation or corrosion: Causes serious eye damage.

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure:

Causes damage to the kidneys, the liver, the respiratory system, the blood, the endocrine system and the immune system through prolonged or repeated exposure.

Route of exposure: Oral, Inhalative.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity:

Organic tin compounds are generally more toxic than inorganic tin. Exposure may result in brain and central nervous system swelling, muscle weakness, paralysis, respiratory failure, neurological disturbances, liver damage, urinary tract injury and blood injury. Excessive exposure may be fatal.

Subacute to chronic toxicity: No effects known.

Subacute to chronic toxicity:

Organic tin compounds are generally more toxic than inorganic tin. Exposure may result in brain and central nervous system swelling, muscle weakness, paralysis, respiratory failure, neurological disturbances, liver damage, urinary tract injury and blood injury. Excessive exposure may be fatal.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Very toxic for aquatic organisms

Additional ecological information:

General notes:

Do not allow product to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, IMDG, IATA

UN3265

UN proper shipping name

DOT

IMDG, IATA

Corrosive liquid, acidic, organic, n.o.s. (n-Butyltin trichloride)

CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (n-Butyltin trichloride)

(Contd. on page 5)
USA

Product name: **n-Butyltin trichloride**

(Contd. of page 4)

Transport hazard class(es)

DOT	
Class	8 Corrosive substances.
Label	8
Class	8 (C3) Corrosive substances
Label	8
IMDG, IATA	
Class	8 Corrosive substances.
Label	8

Packing group
DOT, IMDG, IATA

II

Environmental hazards:

Environmentally hazardous substance, liquid

Special precautions for user

Warning: Corrosive substances

EMS Number:

F-A, S-B

Segregation groups

Acids

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

UN "Model Regulation":

UN3265, Corrosive liquid, acidic, organic, n.o.s. (n-Butyltin trichloride), 8, II

15 Regulatory information

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

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS05 GHS07 GHS08

Signal word Danger

Hazard statements

H227 Combustible liquid.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

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P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Date of preparation / last revision 11/23/2015 / -

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

(Contd. on page 6)
USA

Product name: n-Butyltin trichloride

(Contd. of page 5)

LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)