

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 08/21/2009

Reviewed on 08/20/2009

1 Identification of substance:

Product details:

Product name: cis-Tri-n-butyl(1-propenyl)tin

Stock number: L20200

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

cis-Tri-n-butyl(1-propenyl)tin (CAS# 66680-84-0)

Identification number(s):

Index number: 050-008-00-3

3 Hazards identification

Hazard description:



T Toxic
N Dangerous for the environment

Information pertaining to particular dangers for man and environment

- R 21 Harmful in contact with skin.
R 25 Toxic if swallowed.
R 36/38 Irritating to eyes and skin.
R 48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	2
FIRE	1
REACTIVITY	1

Health (acute effects) = 2
Flammability = 1
Reactivity = 1

GHS label elements



Danger

- 3.1/3 - Toxic if swallowed.
3.1/4 - Harmful in contact with skin.
3.2/2 - Causes skin irritation.
3.3/2A - Causes serious eye irritation.



Danger

- 3.9/1 - Causes damage to organs through prolonged or repeated exposure.



Warning

- 4.1/1 - Very toxic to aquatic life with long lasting effects.

Prevention:

Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.

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Do not eat, drink or smoke when using this product.
Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN: Wash with plenty of soap and water.

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

Call a POISON CENTER or doctor/physician if you feel unwell.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

Specific measures (see on this label).

Rinse mouth.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

Wash contaminated clothing before reuse.

Collect spillage.

Storage:

Store locked up.

Disposal:

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

4 First aid measures

General information

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing has been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

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

Do not induce vomiting; immediately call for medical help.

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

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

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Metal oxide fume

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

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

Measures for cleaning/collecting:

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

7 Handling and storage

Handling

Information for safe handling:

Keep container tightly sealed.

Ensure good ventilation at the workplace.

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

Storage

Requirements to be met by storerooms and receptacles: Refrigerate

Information about storage in one common storage facility:

Store away from oxidizing agents.

Protect from heat.

Further information about storage conditions:

Keep container tightly sealed.

Refrigerate

8 Exposure controls and 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:

Tin, organic compounds, as Sn

	mg/m3
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

Components with limit values that require monitoring at the workplace:

Additional information: No data

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.

Store protective clothing separately.

Avoid contact with the eyes and skin.

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

Protection of hands:

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

Impervious gloves

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Liquid
Color:	Colorless
Odor:	Not determined

Change in condition

Melting point/Melting range:	Not determined
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Boiling point/Boiling range:	77-78°C (171-172°F) (0.25mm Hg)
Sublimation temperature / start:	Not determined
Flash point:	Not determined
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not determined
Density:	Not determined
Solubility in / Miscibility with Water:	Not miscible or difficult to mix

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Oxidizing agents

Heat

Dangerous reactions No dangerous reactions known

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide

Metal oxide fume

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing 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.

Danger through skin absorption.

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.

12 Ecological information:

Ecotoxicological effects:

Remark: Very toxic for fish

General notes:

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.

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

Very toxic for aquatic organisms

13 Disposal considerations

Product:

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

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Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class: 6.1
 Identification number: UN2788
 Packing group: III
 Proper shipping name (technical name): ORGANOTIN COMPOUND, LIQUID, N.O.S. (*cis*-Tri-*n*-butyl(1-propenyl)tin)
 Label: 6.1
 Remarks: Special marking with the symbol (fish and tree).

Land transport ADR/RID (cross-border)



ADR/RID class: 6.1 (T3) Toxic substances
 Danger code (Kemler): 60
 UN-Number: 2788
 Packaging group: III
 Special marking: Symbol (fish and tree)
 Description of goods: 2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (*cis*-Tri-*n*-butyl(1-propenyl)tin)

Maritime transport IMDG:



IMDG Class: 6.1
 UN Number: 2788
 Label: 6.1
 Packaging group: III
 Marine pollutant: No
 Proper shipping name: ORGANOTIN COMPOUND, LIQUID, N.O.S. (*cis*-Tri-*n*-butyl(1-propenyl)tin)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 6.1
 UN/ID Number: 2788
 Label: 6.1
 Packaging group: III
 Proper shipping name: ORGANOTIN COMPOUND, LIQUID, N.O.S. (*cis*-Tri-*n*-butyl(1-propenyl)tin)

UN "Model Regulation": UN2788, ORGANOTIN COMPOUND, LIQUID, N.O.S., 6.1, III

Environmental hazards: Environmentally hazardous substance, liquid; Marine Pollutant

15 Regulations

Product related hazard informations:

Hazard symbols:

T Toxic

N Dangerous for the environment

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Risk phrases:

- 21 Harmful in contact with skin.
 25 Toxic if swallowed.
 36/38 Irritating to eyes and skin.
 48/23/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Safety phrases:

- 35 This material and its container must be disposed of in a safe way.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 45 In case of accident or if you feel unwell, seek medical advice immediately.
 60 This material and its container must be disposed of as hazardous waste.
 61 Avoid release to the environment. Refer to special instructions/Safety data sheets

National regulations

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only.

Some or all of the components of this product are not listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).

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

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 MSDS: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 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)
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 HMIS: Hazardous Materials Identification System (USA)

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