

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Revision: 13.08.2010

Printing date 13.08.2010

## 1 Identification of substance

### Product details

Trade name

**4-Bromo-2-(tri-n-butylstannyl)thiazole**

Stock number:

H51501

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG  
Benzstrasse 3  
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com  
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240

## 2 Hazards identification

Hazard designation:

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.

GHS label elements

**Danger**

H301 - Toxic if swallowed.

**Danger**

H372 - Causes damage to organs through prolonged or repeated exposure.

**Warning**

H400 - Very toxic to aquatic life.  
 H410 - Very toxic to aquatic life with long lasting effects.

### Warning

H312 - Harmful in contact with skin.  
 H315 - Causes skin irritation.  
 H319 - Causes serious eye irritation.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P309 IF exposed or if you feel unwell:  
 P310 Immediately call a POISON CENTER or doctor/physician.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Prevention:

Response:

Disposal:

## 3 Composition/information on ingredients

Chemical characterization:

4-Bromo-2-(tri-n-butylstannyl)thiazole (CAS# 173978-98-8)

Designation: (CAS#)

Identification number(s):

050-008-00-3

Index number:

## 4 First aid measures

General information

Instantly remove any clothing soiled by the product.

After inhalation

In case of irregular breathing or respiratory arrest provide artificial respiration. Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice. Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.

After swallowing

Rinse opened eye for several minutes under running water. Then consult doctor. Do not induce vomiting; instantly call for medical help.

Seek immediate medical advice.

## 5 Fire fighting measures

Suitable extinguishing agents

CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

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

Can be released in case of fire:  
 Carbon monoxide and carbon dioxide  
 Nitrogen oxides (NO<sub>x</sub>)  
 Metal oxide  
 Sulphur oxides (SO<sub>x</sub>)  
 Hydrogen bromide (HBr)  
 Possibly Hydrogen cyanide (HCN)  
 Wear self-contained breathing apparatus.  
 Wear full protective suit.

Protective equipment:

## 6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Ensure adequate ventilation

Measures for cleaning/collecting:

Do not allow material to be released to the environment without proper governmental permits.  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Dispose of contaminated material as waste according to item 13.  
 See Section 7 for information on safe handling  
 See section 8 for information on personal protection equipment.  
 See Section 13 for information on disposal.

Additional information:

## 7 Handling and storage

Handling

Information for safe handling:

Keep containers tightly sealed.  
 Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

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**Storage Requirements to be met by storerooms and containers:**  
**Information about storage in one common storage facility:**

Refrigerate

Store away from oxidizing agents.  
Protect from heat.

**Further information about storage conditions:**

Keep container tightly sealed.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
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 critical values that require monitoring at the workplace:**

Tin, organic compounds, as Sn  
mg/m<sup>3</sup>  
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 critical values that require monitoring at the workplace:**

**Additional information:**

No data

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Avoid contact with the eyes and skin.

Use breathing protection with high concentrations.

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

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Impervious gloves

Not determined

Safety glasses

Face protection

Protective work clothing.

**Breathing equipment:**

**Protection of hands:**

**Material of gloves**

**Penetration time of glove material**

**Eye protection:**

**Body protection:**

## 9 Physical and chemical properties:

**General Information**

**Form:** Liquid  
**Colour:** Colourless  
**Smell:** Not determined

**Change in condition**  
**Melting point/Melting range:** Not determined  
**Boiling point/Boiling range:** Not determined  
**Sublimation temperature / start:** Not determined

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Danger of explosion:** Product is not explosive.

**Critical values for explosion:**  
**Lower:** Not determined  
**Upper:** Not determined

**Steam pressure:** Not determined

**Density** Not determined

## 10 Stability and reactivity

**Thermal decomposition / conditions to be avoided:**

No decomposition 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  
Nitrogen oxides (NO<sub>x</sub>)  
Possibly Hydrogen cyanide (HCN)  
Sulphur oxides (SO<sub>x</sub>)  
Hydrogen bromide

## 11 Toxicological information

**Acute toxicity:**

**Primary irritant effect:**

Irritant for skin and mucous membranes.

**on the skin:**

Irritant effect.

**on the eye:**

No sensitizing effect known.

**Sensitization:**

**Additional toxicological information:**

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

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Danger by skin resorption.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information:****Ecotoxicological effects:****Remark:****Additional ecological information:****General notes:**

Very toxic for fish

Water danger class 3 (Self-assessment): extremely hazardous for water.  
 Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
 Danger to drinking water if even extremely small quantities leak into soil.  
 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**

Hand over to disposers of hazardous waste.  
 Must be specially treated under adherence to official regulations.  
 Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:****Recommendation:**

Disposal must be made according to official regulations.

**14 Transport information****Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)****ADR/RID-GGVS/E Class:**

6.1 (T3) Toxic substances.

**Kemler Number:**

60

**UN-Number:**

2788

**Packaging group:**

III

**Label**

6.1

**Special marking:**

Symbol (fish and tree)

**Designation of goods:**

2788 ORGANOTIN COMPOUND, LIQUID, N.O.S. (4-Bromo-2-(tri-n-butylstannyl)thiazole)

**Limited quantities (LQ)**

LQ7

**Transport category**

2

**Tunnel restriction code**

E

**Maritime transport IMDG/GGVSea:****IMDG/GGVSea Class:**

6.1

**UN Number:**

2788

**Label**

6.1

**Packaging group:**

III

**Marine pollutant:**

Yes (P)

Symbol (fish and tree)

**Correct technical name:**

ORGANOTIN COMPOUND, LIQUID, N.O.S. (4-Bromo-2-(tri-n-butylstannyl)thiazole)

**Air transport ICAO-TI and IATA-DGR:****ICAO/IATA Class:**

6.1

**UN/ID Number:**

2788

**Label**

6.1

**Packaging group:**

III

**Correct technical name:**

ORGANOTIN COMPOUND, LIQUID, N.O.S. (4-Bromo-2-(tri-n-butylstannyl)thiazole)

**UN "Model Regulation":**

UN2788, ORGANOTIN COMPOUND, LIQUID, N.O.S., 6.1, III  
 Environmentally hazardous substance, liquid; Marine Pollutant

**Environmental hazards:****15 Regulatory information****Designation according to EC guidelines:****Code letter and hazard designation of product:**

T Toxic

N Dangerous for the environment

**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.  
 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 (show the label where possible).  
 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.

**Safety phrases:****National regulations****Information about limitation of use:**

For use only by technically qualified individuals.  
 Employment restrictions concerning young persons must be observed.

**Water hazard class:**

Water danger class 3 (Self-assessment): extremely hazardous for water.

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**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 data specification sheet:** 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  
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)  
P: Marine Pollutant  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
CAS: Chemical Abstracts Service (division of the American Chemical Society)

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