

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 13.07.2010

Revision: 13.07.2010

1 Identification of substance

Product details

Trade name

Bismuth lead tin cadmium ingot (Wood's metal)

Stock number:

33218

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 45 May cause cancer.
 R 61 May cause harm to the unborn child.
 R 62 Possible risk of impaired fertility.
 R 20/21/22 Also harmful by inhalation, in contact with skin and if swallowed.
 R 33 Danger of cumulative effects.
 R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GHS label elements

**Danger**

H350 - May cause cancer.
 H360Fd - May damage fertility. Suspected of damaging the unborn child.
 H373 - May cause 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**

H302 - Harmful if swallowed.
 H312 - Harmful in contact with skin.
 H332 - Harmful if inhaled.
 P201 Obtain special instructions before use.
 P273 Avoid release to the environment.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Prevention:

Response:

Disposal:

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Bismuth (CAS# 7440-69-9): 50%
 Lead (CAS# 7439-92-1): 25%
 Tin (CAS# 7440-31-5): 12.5%
 Cadmium (CAS# 7440-43-9): 12.5%

4 First aid measures

After inhalation

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

After swallowing

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Use fire fighting measures that suit the environment.

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

Can be released in case of fire:
 Toxic metal oxide smoke
 Leadoxide vapour
 Metal oxide

Protective equipment:

Wear self-contained breathing apparatus.
 Wear full protective suit.

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.

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

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.
 Store in cool, dry place in tightly closed containers.
 Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

The product is not flammable

Storage

Requirements to be met by storerooms and containers:

No special requirements.

Information about storage in one common storage facility:

Do not store together with acids.

Further information about storage conditions:

Keep container tightly sealed.

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Store in cool, dry conditions in well sealed containers.

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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:

Lead, elemental, and inorganic compounds (as Pb)

mg(Pb)/m³

ACGIH TLV 0.05; Confirmed animal carcinogen

Austria MAK 0.1

Belgium TWA 0.15

Denmark TWA 0.1

Germany MAK 0.1

Japan OEL 0.1

Korea TLV 0.05; Confirmed animal carcinogen

Netherlands TWA 0.15

Norway TWA 0.05

Poland TWA 0.05

Sweden TWA 0.05 (resp. dust)

0.1 (total dust)

Switzerland MAK-W 0.1

United Kingdom TWA 0.1

USA PEL 0.05

Cadmium and compounds, as Cd

mg/m³

ACGIH TLV 0.002(Cd); Suspected human carcinogen

Austria Carcinogen

Belgium TWA 0.05

Denmark TWA 0.01

Finland TWA 0.02; Carcinogen

France VME 0.05

Germany Carcinogen

Ireland TWA 0.025; carcinogen

Japan OEL 0.05; Group 1 Carcinogen

Korea TLV 0.01; Suspected human carcinogen

Netherlands MAC-TGG 0.02; 0.1-MAC-K

Norway TWA 0.05

Poland TWA 0.02; 0.05-STEL (fume)

0.04; 0.2-STEL (dust)

Russia 0.01; 0.05-STEL

Sweden NGV 0.05 (total dust)

TWA 0.01 (resp. dust)

Switzerland MAK-W 0.05; Carcinogen

United Kingdom TWA 0.025(Cd)

USA PEL (respirable) 0.2(Cd)

Tin metal, tin oxide and inorganic tin compounds, except tin hydride, as Sn

mg/m³

ACGIH TLV 2

Austria MAK 2

Belgium TWA 2

Denmark TWA 2

Finland TWA 2

Germany MAK 2

Hungary TWA 1; 2-STEL (skin)

Netherlands MAC-TGG 2

Norway TWA 1

Poland TWA 2

Switzerland MAK-W 2; 4-KZG-W

United Kingdom TWA 2; 4-STEL

USA PEL 2

No data

Additional information:

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.

Safety glasses

Protective work clothing.

Breathing equipment:

Eye protection:

Body protection:

9 Physical and chemical properties:

General Information

Form: Ingot

Colour: Silver grey

Smell: Odourless

Change in condition

Melting point/Melting range: 71°C

Boiling point/Boiling range: Not determined

Sublimation temperature / start: Not determined

Flash point: Not applicable

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

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Steam pressure: Not determined

Density at 20°C 9.7 g/cm³

Solubility in / Miscibility with Water: Insoluble

10 Stability and reactivity

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.

Materials to be avoided:

Acids

Halogens

Dangerous reactions:

No dangerous reactions known

Dangerous products of decomposition:

Toxic metal oxide smoke

Leadoxide vapour

Metal oxide

11 Toxicological information

Acute toxicity:

Primary irritant effect:

on the skin:

on the eye:

Sensitization:

Additional toxicological information:

Irritant for skin and mucous membranes.

Irritant effect.

No sensitizing effect known.

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

Danger by skin resorption.

May cause harm to the unborn child.

Possible risk of impaired fertility.

EPA-B2: Probable human carcinogen, sufficient evidence from animal studies; inadequate evidence or no data from epidemiologic studies.

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

NTP-1: Known to be carcinogenic: sufficient evidence from human studies.

Carcinogen as defined by OSHA.

ACGIH A2: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) considered relevant to worker exposure.

Available epidemiologic studies are conflicting or insufficient to confirm an increased risk of cancer in exposed humans.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this product.

12 Ecological information:

Ecotoxic effects:

Remark:

Additional ecological information:

General notes:

Very toxic for fish

Water hazard class 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

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 for proper disposal.

Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.

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: None

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: None

Marine pollutant: No

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: None

Environmental hazards: Environmentally hazardous substance, solid; Marine Pollutant

Transport/Additional information: Not dangerous according to the above specifications.

15 Regulatory information

Designation according to EC guidelines:

Code letter and hazard designation of product:



T Toxic

N Dangerous for the environment

Risk phrases:

45 May cause cancer.

61 May cause harm to the unborn child.

62 Possible risk of impaired fertility.

20/21/22 Also harmful by inhalation, in contact with skin and if swallowed.

33 Danger of cumulative effects.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

53 Avoid exposure - obtain special instructions before use.

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.

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.

Employment restrictions concerning women of child-bearing age must be observed.

For use only by technically qualified individuals.

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Water hazard class 1 (Self-assessment): slightly 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)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)

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