

## SAFETY DATA SHEET

Version 4.4

Revision Date 04.10.2017

Print Date 20.01.2019

---

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifiers**

Product name : Bismuth

Product Number : 556130

Brand : Aldrich

**1.2 Other means of identification**

No data available

**1.3 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.4 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Pty. Ltd.  
12 Anella Avenue  
CASTLE HILL NSW 2154  
AUSTRALIA

Telephone : +61 2 9841 0555 (1800 800 097)

Fax : +61 2 9841 0500 (1800 800 096)

**1.5 Emergency telephone number**Emergency Phone # : Free call (24/7): 1800 448 465  
Int'l (24/7): +61 2 9037 2994 (CHEMTREC)

---

**2. HAZARDS IDENTIFICATION****2.1 GHS Classification**

Not a hazardous substance or mixture.

**2.2 GHS Label elements, including precautionary statements**

Pictogram none

Signal word none

Hazard statement(s) none

Precautionary statement(s) none

Not a hazardous substance or mixture.

**2.3 Other hazards - none**

---

**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Formula : Bi

Molecular weight : 208.98 g/mol

CAS-No. : 7440-69-9

EC-No. : 231-177-4

No components need to be disclosed according to the applicable regulations.

---

#### **4. FIRST AID MEASURES**

##### **4.1 Description of first aid measures**

###### **If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

###### **In case of skin contact**

Wash off with soap and plenty of water.

###### **In case of eye contact**

Flush eyes with water as a precaution.

###### **If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water.

##### **4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

##### **4.3 Indication of any immediate medical attention and special treatment needed**

No data available

---

#### **5. FIREFIGHTING MEASURES**

##### **5.1 Extinguishing media**

###### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### **5.2 Special hazards arising from the substance or mixture**

No data available

##### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

##### **5.4 Further information**

No data available

---

#### **6. ACCIDENTAL RELEASE MEASURES**

##### **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing vapours, mist or gas.

For personal protection see section 8.

##### **6.2 Environmental precautions**

No special environmental precautions required.

##### **6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Keep in suitable, closed containers for disposal.

##### **6.4 Reference to other sections**

For disposal see section 13.

---

#### **7. HANDLING AND STORAGE**

##### **7.1 Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

- 7.2 Conditions for safe storage, including any incompatibilities**  
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- 7.3 Specific end use(s)**  
Apart from the uses mentioned in section 1.3 no other specific.

---

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

**Occupational Exposure Limits**

We are not aware of any national exposure limit.

**8.2 Exposure controls**

**Appropriate engineering controls**

General industrial hygiene practice.

**Personal protective equipment**

**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: Pieces Colour: light grey
b) Odour	odourless
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: 271 °C
f) Initial boiling point and boiling range	1,560 °C
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	< 0.1 hPa at 20 °C
l) Vapour density	No data available
m) Relative density	9.8 g/mL at 25 °C
n) Water solubility	insoluble
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

### 9.2 Other safety information

No data available

---

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Oxidizing agents, Halogens, acids

## 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Bismuth oxides

Other decomposition products - No data available

In the event of fire: see section 5

---

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 2,000 mg/kg  
(OECD Test Guideline 401)

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

#### Additional Information

Repeated dose toxicity      Rat - male and female - Gavage - NOAEL : 1,000 mg/kg

RTECS: EB2600000

Kidney disorders, Liver disorders, Dermatitis

---

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates      static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h  
(OECD Test Guideline 202)

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

No data available

---

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

---

**14. TRANSPORT INFORMATION****14.1 UN number**

ADR/RID: -

IMDG: -

IATA-DGR: -

**14.2 UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: -

IMDG: -

IATA-DGR: -

**14.4 Packaging group**

ADR/RID: -

IMDG: -

IATA-DGR: -

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

**14.6 Special precautions for user**

No data available

---

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Standard for the Uniform Scheduling of Medicines and Poisons**

No data available

**Carcinogen classification under WHS Regulation 2011, Schedule 10**

Not listed

**Notification status**

**AICS:** On the inventory, or in compliance with the inventory

**DSL:** All components of this product are on the Canadian DSL

**ENCS:** Not in compliance with the inventory - Bismuth

**IECSC:** On the inventory, or in compliance with the inventory

**ISHL:** Not in compliance with the inventory - Bismuth

**KECI:** On the inventory, or in compliance with the inventory

**NZIoC:** Not in compliance with the inventory - Bismuth

**PICCS:** On the inventory, or in compliance with the inventory

---

**16. OTHER INFORMATION****Further information**

Copyright 2016 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

---