

## Chemical Safety Data Sheet MSDS / SDS

**ANTIMONY (III) BUTOXIDE**

Revision Date:2026-05-31 Revision Number:1

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : ANTIMONY (III) BUTOXIDE  
CBnumber : CB3713947  
CAS : 2155-74-0  
EINECS Number : 218-456-6  
Synonyms : Antimony (III) Butoxide

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word Danger

**Precautionary statements**

P331 Do NOT induce vomiting.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P273 Avoid release to the environment.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

**Hazard statements**

H332 Harmful if inhaled  
H302 Harmful if swallowed  
H411 Toxic to aquatic life with long lasting effects  
H373 May cause damage to organs through prolonged or repeated exposure  
H336 May cause drowsiness or dizziness  
H335 May cause respiratory irritation  
H318 Causes serious eye damage

H315 Causes skin irritation

H304 May be fatal if swallowed and enters airways

H226 Flammable liquid and vapour

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## SECTION 3: Composition/information on ingredients

### Substance

Product name : ANTIMONY (III) BUTOXIDE  
Synonyms : Antimony (III) Butoxide  
CAS : 2155-74-0  
EC number : 218-456-6  
MF : C12H27O3Sb  
MW : 341.1

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

Remove contact lenses.

#### If swallowed

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

### 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) and/or in section 11

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

No data available

### 4.4 Notes to physician

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

## 5.2 Special hazards arising from the substance or mixture

Carbon oxides

Antimony oxide

Mixture with combustible ingredients.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

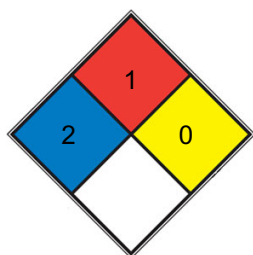
Development of hazardous combustion gases or vapours possible in the event of fire.

## 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## NFPA 704



**HEALTH** 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

**FIRE** 1 Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. [mineral oil](#), ammonia)

**REACT** 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

**SPEC.**

**HAZ.**

## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.

Chemizorb®). Dispose of properly. Clean up affected area.

## 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Handle under nitrogen, protect from moisture. Light sensitive.

#### Storage class

Storage class (TRGS 510): 3: Flammable liquids

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

['Component', 'CAS-No.', 'Value', 'Control parameters', 'Basis']	['Antimony(III) butoxide', '2155-74-0', 'PC-TWA', '0.5 mg/m3', 'Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.']	['Toluene', '108-88-3', 'PC-TWA', '50 mg/m3', 'Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.']	['', 'Skin', 'None', 'None']	['', 'PC-STEL', '100 mg/m3', 'Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.']	['', 'Skin', 'None', 'None']	['n-butanol', '71-36-3', 'PC-TWA', '100 mg/m3', 'Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.']
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#### Biological occupational exposure limits

['Component', 'CAS-No.', 'Parameters', 'Value', 'Biological specimen', 'Basis']	['', '2155-74-0', 'antimony', '85 µg/l', 'Urine', 'China. Biological Occupational Exposure Indices']	['', 'Remarks', 'End of shift', 'None', 'None']	['', '108-88-3', 'hippuric acid', '1mol/mo l creatinin e', 'Urine', 'China. Biological Occupational Exposure Indices']	['', 'Remarks', 'End of workshift (after exposure has ended)', 'None', 'None']	['', 'hippuric creatinin e', 'Urine', 'China. Biological Occupational Exposure Indices']	['', 'End of workshift (after exposure has ended)', 'None', 'None']	['', 'hippuric acid', '1.5g/g of workshift (after exposure has ended)', 'None', 'None']	['', 'End of workshift (after exposure has ended)', 'None', 'None']	['', 'hippuric acid', '2 g/l', 'Urine', 'China. Biological Occupational Exposure Indices']	['', 'End of workshift (after exposure has ended)', 'None', 'None']	['', 'toluene', '20mg/m³', 'end exhaled air', 'China. Biological Occupational Exposure Indices']
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['', 'toluene',	
'5mg/m³', 'end	
exhaled air',	
'China.	['', 'Prior to
Biological	shift', None,
Occupational	None, None]
Exposure	
Indices']	

End of workshift (15-30 min after exposure has ended)

## 8.2 Exposure controls

### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

### 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). Tightly fitting safety goggles

#### Skin protection

required

#### Body Protection

Flame retardant antistatic protective clothing.

#### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

#### Control of environmental exposure

Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

a) Appearance	Form: liquid
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	133°C 0,4mm
g) Flash point	32 °C - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapor pressure	1.5 hPa at 54.4 °C
l) Vapor density	No data available
m) Density	1.225 g/cm <sup>3</sup> at 25 °C
Relative density	1.225 g/mL at 25 °C

n) Water solubility	No data available
o) Partition coefficient n-octanol/water	No data available
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s) Explosive properties	Not classified as explosive.
t) Oxidizing properties	none
Solubility	Soluble in anhydrous butanol, THF
Physical state	liquid
Colour	colorless

## 9.2 Other safety information

No data available

## SECTION 10: Stability and reactivity

### 10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.2 Possibility of hazardous reactions

No data available

### 10.3 Conditions to avoid

Heating.

### 10.4 Incompatible materials

Bases, Oxidizing agents, Alkali metals, Strong oxidizing agents, Strong acids, Halogens

### 10.5 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Mixture Acute toxicity

Acute toxicity estimate Oral - 573.8 mg/kg (Calculation method)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute toxicity estimate Inhalation - 4 h - 2.01 mg/l (Calculation method)

Symptoms: Possible symptoms:., mucosal irritations, Cough, Shortness of breath, Possible damages:., damage of respiratory tract

Acute toxicity estimate Dermal - > 5,000 mg/kg (Calculation method)

#### Skin corrosion/irritation

Mixture causes skin irritation.

#### Serious eye damage/eye irritation

Mixture causes serious eye damage.

#### Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

**Germ cell mutagenicity**

Classified based on available data. For more details, see section 2

**Carcinogenicity**

Classified based on available data. For more details, see section 2

**Reproductive toxicity**

Suspected of damaging the unborn child.

Suspected of damaging fertility.

**Specific target organ toxicity - single exposure**

Mixture may cause respiratory irritation.

Mixture may cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**

Mixture may cause damage to organs through prolonged or repeated exposure. - Central nervous system

**Aspiration hazard**

Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

**11.2 Additional Information**

Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Lung irritation, chest pain, pulmonary edema,

Central nervous system depression

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

**Components Antimony(III) butoxide****Acute toxicity**

Oral: No data available

Acute toxicity estimate Oral - 500.1 mg/kg (Expert judgment)

Acute toxicity estimate Inhalation - 4 h - 1.51 mg/l (Expert judgment)

Dermal: No data available

**Skin corrosion/irritation**

Classified based on available data. For more details, see section 2

**Serious eye damage/eye irritation**

Classified based on available data. For more details, see section 2

**Respiratory or skin sensitization**

Classified based on available data. For more details, see section 2

**Germ cell mutagenicity**

Classified based on available data. For more details, see section 2

**Carcinogenicity**

Classified based on available data. For more details, see section 2

**Reproductive toxicity**

Classified based on available data. For more details, see section 2

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

Classified based on available data. For more details, see section 2

**Aspiration hazard**

Classified based on available data. For more details, see section 2

**Toluene Acute toxicity**

LD50 Oral - Rat - male - 5,580 mg/kg (Tested according to Directive 92/69/EEC.)

LC50 Inhalation - Rat - male and female - 4 h - 25.7 mg/l (OECD Test Guideline 403)

LD50 Dermal - Rabbit - > 5,000 mg/kg

Remarks: (ECHA)

**Skin corrosion/irritation**

Skin - Rabbit

Result: irritating - 4 h

Remarks: (ECHA)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: slight irritation (OECD Test Guideline 405)

**Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative (Regulation (EC) No. 440/2008, Annex, B.6)

**Germ cell mutagenicity**

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Result: negative

Test Type: Ames test

Test system: S. typhimurium

Result: negative

Species: Rat - Bone marrow

Result: negative

Remarks: (ECHA)

**Carcinogenicity**

Classified based on available data. For more details, see section 2

**Reproductive toxicity**

Suspected of damaging the unborn child.

**Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness. - Central nervous system

**Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure. - Central nervous system

**Aspiration hazard**

Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

**n-butanol Acute toxicity**

LD50 Oral - Rat - 790 mg/kg

Remarks: Liver:Fatty liver degeneration.

Kidney, Ureter, Bladder:Other changes.

Blood:Other changes.

(RTECS)

Inhalation: No data available

LD50 Dermal - Rabbit - male - 3,430 mg/kg (OECD Test Guideline 402)

**Skin corrosion/irritation**

Skin - Rabbit

Result: Skin irritation - 2 h

Remarks: (ECHA) (Regulation (EC) No 1272/2008, Annex VI)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Irreversible effects on the eye (OECD Test Guideline 405) (Regulation (EC) No 1272/2008, Annex VI)

**Respiratory or skin sensitization**

Classified based on available data. For more details, see section 2

#### **Germ cell mutagenicity**

Test Type: Mutagenicity (mammal cell test): micronucleus.

Test system: Chinese hamster lung cells

Result: negative

Remarks: (ECHA)

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Result: negative

Method: OECD Test Guideline 474

Species: Mouse - male and female

Result: negative

#### **Carcinogenicity**

IARC: No ingredient 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**

Classified based on available data. For more details, see section 2

#### **Specific target organ toxicity - single exposure**

May cause respiratory irritation.

May cause drowsiness or dizziness.

#### **Specific target organ toxicity - repeated exposure**

Classified based on available data. For more details, see section 2

#### **Aspiration hazard**

Classified based on available data. For more details, see section 2

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## SECTION 12: Ecological information

### **12.1 Toxicity**

#### **Mixture**

No data available

### **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

#### **Components Antimony(III) butoxide**

No data available

#### **Toluene**

Toxicity to fish flow-through test LC50 - Oncorhynchus kisutch (coho salmon) - 5.5 mg/l - 96 h  
Chemical Book

Remarks: (ECHA)

Toxicity to daphnia EC50 - Ceriodaphnia dubia (water flea) - 3.78 mg/l - 48 h and other aquatic (US-EPA) invertebrates

Toxicity to bacteria static test EC50 - Bacteria - 84 mg/l - 24 h

Remarks: (ECHA)

#### **n-butanol**

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - 1,376 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia static test EC50 - Daphnia magna (Water flea) - 1,328 mg/l - and other aquatic 48 h invertebrates (OECD Test Guideline 202)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 225 mg/l - 96 h (OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - Pseudomonas putida - 4,390 mg/l - 17 h (DIN 38421 TEIL 8)

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product

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

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1993

IMDG: 1993

IATA-DGR: 1993

### 14.2 UN proper shipping name

ADR/RID: FLAMMABLE LIQUID, N.O.S. (Toluene, n-butanol)

IMDG: FLAMMABLE LIQUID, N.O.S. (Toluene, n-butanol)

IATA-DGR: Flammable liquid, n.o.s. (Toluene, n-butanol)

### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA-DGR: 3

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA-DGR: II

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA-DGR: no

### 14.6 Special precautions for user

Based on chemical properties, choose appropriate tools and conditions of transport.

Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting

by road, please go along the specified route.

#### 14.7 Incompatible materials

Bases, Oxidizing agents, Alkali metals, Strong oxidizing agents, Strong acids, Halogens

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## SECTION 15: Regulatory information

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

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

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## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

TWA: Time-Weighted Average

STEL: Short-Term Exposure Limit

LD50: Lethal Dose 50%

LC50: Lethal Concentration 50%

EC50: Effective Concentration 50%

PEL: Permissible Exposure Limit

TLV: Threshold Limit Value

IMDG: International Maritime Dangerous Goods Code

IATA: International Air Transport Association

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

DOT: US Department of Transportation

NFPA: National Fire Protection Association

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety and Health Administration

#### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.