

## Chemical Safety Data Sheet MSDS / SDS

## INDIUM HYDROXIDE

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

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

Product name : INDIUM HYDROXIDE  
CBnumber : CB3331170  
CAS : 20661-21-6  
EINECS Number : 243-947-7  
Synonyms : indium(III) hydroxide,indium hydroxide

**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**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.  
P314 Get medical advice/attention if you feel unwell.  
P391 Collect spillage. Hazardous to the aquatic environment

**Hazard statements**

H372 Causes damage to organs through prolonged or repeated exposure  
H411 Toxic to aquatic life with long lasting effects

## SECTION 3: Composition/information on ingredients

### Substance

Product name	: INDIUM HYDROXIDE
Synonyms	: indium(III) hydroxide, indium hydroxide
CAS	: 20661-21-6
EC number	: 243-947-7
MF	: H3InO3
MW	: 165.84

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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. Call in physician.

#### 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. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

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

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

Indium/indium oxides

Not combustible.

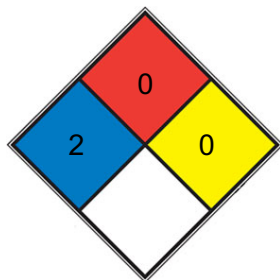
Ambient fire may liberate hazardous vapours.

### 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.

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 0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

**REACT 0** Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

**SPEC.**  
**HAZ.**

## SECTION 6: Accidental release measures

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

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. 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.

### 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

#### Advice on safe handling

Work under hood. Do not inhale substance/mixture.

#### 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

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

#### Storage class

Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

['Component', 'CAS-No.', 'Value', 'Control parameters', 'Basis']	['Indium trihydroxide', '20661-21- 6', 'PC-TWA', '0.1 mg/m3', 'Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.']	["", 'PC-STEL', '0.3 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']	['Indium trihydroxide', '20661-21- 6', 'Indium', '1 µg/l', 'In serum or plasma', 'ACGIH - Biological Exposure Indices']
["", 'Remarks', 'Not critical']	

(BEI)

### 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). Safety glasses

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell,

Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 L

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 L

#### Body Protection

protective clothing

#### Respiratory protection

required when dusts 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.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

a) Physical state	powder
b) Color	white
c) Odor	No data available
d) Melting point/freezing point	Melting point/ range: 150 °C - lit.
e) Initial boiling point and boiling range	No data available
f) Flammability (solid, gas)	No data available
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	Not applicable
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	0.001 g/l at 20 °C - OECD Test Guideline 105
n) Partition coefficient n-octanol/water	Not applicable for inorganic substances
o) Vapor pressure	< 0.01 hPa at 25 °C
p) Density	4.45 g/cm <sup>3</sup> at 20 °C - lit.
Relative density	4.45 g/mL at 20 °C (lit.)
q) Relative vapor density	No data available

r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available
Solubility	H <sub>2</sub> O: insoluble(lit.)

## 9.2 Other safety information

No data available

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# 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

no information available

## 10.4 Incompatible materials

Strong acids, Carbon dioxide (CO<sub>2</sub>), Strong oxidizing agents

## 10.5 Hazardous decomposition products

In the event of fire: see section 5

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# SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

### Acute toxicity

LD<sub>50</sub> Oral - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation (OECD Test Guideline 404)

### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation (OECD Test Guideline 405)

### Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: Not a skin sensitizer.

(OECD Test Guideline 406)

### 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**

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

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

Causes damage to organs through prolonged or repeated exposure.

#### **Aspiration hazard**

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

### **11.2 Additional Information**

Repeated dose toxicity - Rat - Inhalation

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

No data available

Toxicity to daphnia static test LC50 - Daphnia magna (Water flea) - 877.293 mg/l - 48 h and other aquatic (OECD Test Guideline 202) invertebrates

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 1.584 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to daphnia semi-static test - Ceriodaphnia dubia (water flea) - 10 mg/l - 7 d and other aquatic (US-EPA) invertebrates(Chronic toxicity)

### **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 Endocrine disrupting properties**

No data available

### **12.7 Other adverse effects**

No data available

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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: 3077

IMDG: 3077

IATA-DGR: 3077

### 14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Indium trihydroxide)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Indium trihydroxide)

IATA-DGR: Environmentally hazardous substance, solid, n.o.s. (Indium trihydroxide)

### 14.3 Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA-DGR: 9

### 14.4 Packaging group

ADR/RID: III

IMDG: III

IATA-DGR: III

### 14.5 Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA-DGR: yes

### 14.6 Special precautions for user

### 14.7 Incompatible materials

Strong acids, Carbon dioxide (CO<sub>2</sub>), Strong oxidizing agents

Further information: EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. Packages smaller than or equal to 5 kg / L , not dangerous goods of

Class 9

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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

Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number : B1A222231801

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

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.