



MATERION

Product name: Indium Metal

CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

Issue date: 08-30-2018


Version #: 01

SDS No: G03

SECTION 1 Chemical product and company identification

Chinese name of chemical	铟金属
English name of chemical	Indium Metal
Manufacturer/Supplier	Materion Advanced Materials Germany GmbH
Address	Borsigstrasse 10 Alzenau, 63755 Germany
Contact person	Hermann Schmiing
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Emergency telephone number	49.60.23.91.82.0
Issue date	08-30-2018
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SECTION 2 Hazards identification

Emergency overview	May cause respiratory irritation.
Hazard categories	
Physical hazards	Not classified.
Health hazards	Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Environmental hazards	Not classified.
Label elements	
Pictograms	
Signal word	Warning
Hazard statement	
H335	May cause respiratory irritation.
Precautionary statement	
Prevention	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P285	In case of inadequate ventilation wear respiratory protection.
Response	
P342 + P311	If experiencing respiratory symptoms: Call a poison center/doctor.
Storage	
P405	Store locked up.

Disposal

P501

Dispose of contents/container (in accordance with related regulations).

Physical and chemical hazards

The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.

Health hazards

Expected to be a low ingestion hazard. Direct contact with eyes may cause temporary irritation.

Environmental hazards

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Supplemental information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

SECTION 3 Composition/information on ingredients

Substance/mixture	Substance	Concentration (%)	CAS Number
Chemical name			
Indium		99.9 - 100	7440-74-6

SECTION 4 First aid measures**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms and health effects

Irritation of eyes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Personal protection for first-aid responders

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Notes to physician

Provide general supportive measures and treat symptomatically.

SECTION 5 Fire-fighting measures**Extinguishing media**Dry chemicals, sand, dolomite etc. Carbon dioxide (CO₂).**Extinguishing media to avoid**

Water.

Specific hazards

No unusual fire or explosion hazards noted.

Special fire fighting procedures

Move containers from fire area if you can do so without risk.

Protection of fire-fighters

Wear suitable protective equipment.

General fire hazards

No unusual fire or explosion hazards noted.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Keep unnecessary personnel away. Avoid generation and spreading of dust. Avoid inhalation of dust. Avoid breathing mist or vapor.

For emergency responders

Keep unnecessary personnel away.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

Clean-up methods and materials and containment measures

Pick up and arrange disposal without creating dust. Shovel up and place in a container for salvage or disposal. Sweep up or gather material and place in appropriate container for disposal.

Prevention of secondary hazards

Not available.

SECTION 7 Handling and storage**Handling**

Observe good industrial hygiene practices. Avoid contact with skin. Avoid breathing dust/fume/gas/mist/vapors/spray. Provide adequate ventilation.

Storage

Keep container tightly closed in a dry and well-ventilated place.

SECTION 8 Exposure controls/personal protection

Exposure limits

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

Material	Type	Value
Indium Metal	PC-STEL	0.3 mg/m ³
	PC-TWA	0.1 mg/m ³
Components	Type	Value
Indium (CAS 7440-74-6)	PC-STEL	0.3 mg/m ³
	PC-TWA	0.1 mg/m ³

Biological limit values

No biological exposure limits noted for the ingredient(s).

Monitoring methods

Follow standard monitoring procedures.

Engineering measures

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection

In case of inadequate ventilation, use respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing.

Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

SECTION 9 Physical and chemical properties

Appearance

Physical state

Solid.

Form

Solid.

Color

Silver-white.

Odor

None.

Odor threshold

Not applicable.

pH

Not applicable.

Melting point/freezing point

313.88 °F (156.6 °C)

Boiling point, initial boiling point, and boiling range

3761.6 °F (2072 °C)

Flash point

Not applicable.

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not applicable.

Explosive limit - lower (%) temperature

Not applicable.

Explosive limit - upper (%)

Not applicable.

Explosive limit - upper (%) temperature

Not applicable.

Vapor pressure

< 0.0000001 kPa (77 °F (25 °C))

Vapor density

Not applicable.

Relative density

Not applicable.

Density

7.31 g/cm³ at 20 °C

Solubility(ies)

Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.

Other data

Explosive limit	Not applicable.
Explosive properties	Not explosive.
Molecular formula	In
Molecular weight	114.82 g/mol
Oxidizing properties	Not oxidizing.
Specific gravity	7.31
Viscosity	Not applicable.

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Acids. Sulfur. Halogens.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity	None known.
Routes of exposure	Not available.
Symptoms	Direct contact with eyes may cause temporary irritation.
Skin corrosion/irritation	Not relevant, due to the form of the product.
Serious eye damage/eye irritation	May cause eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.
Toxic to reproduction	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity following single exposure	May cause respiratory irritation.
Specific target organ toxicity following repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Not available.
Other information	None known.

SECTION 12 Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
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Persistence and degradability

Bioaccumulation	No data available.
Mobility in soil	The product is immiscible with water and will spread on the water surface.
Other hazardous effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13 Disposal considerations

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
Local disposal regulations	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

SECTION 14 Transport information**CNDG**

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15 Regulatory information**Law of the People's Republic of China on Prevention and Control of Occupational Diseases****Classification of occupational disease hazards**

Indium (CAS 7440-74-6)

Regulations on the Control over Safety of Dangerous Chemicals

Not regulated.

Provision on the Environmental Administration of New Chemical Substances**China Inventory of Existing Chemical Substances**

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other regulations

This safety data sheet conforms to the following laws, regulations and standards:
 Regulations on the Control over Safety of Dangerous Chemicals
 Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
 Measures for the Safe Use of Chemicals in Workplaces
 Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
 General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
 Packing Symbol of Dangerous Goods(GB190-2009)
 Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 16 Other information**References**

EPA: AQUIRE database
GB6944-2012: Classification and Code of Dangerous Goods.
GB12268-2012: List of Dangerous Goods.
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

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