



<a href="#">Indium Selenide Crystal</a>	<a href="#">Pricing &gt;</a>
<a href="#">Indium(III) Selenide</a>	<a href="#">Pricing &gt;</a>
<a href="#">Indium(III) Selenide Sputtering Target</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	In <sub>2</sub> Se <sub>3</sub>
<b>Pubchem CID</b>	6390731
<b>MDL Number</b>	MFCD00016147
<b>EC No.</b>	235-016-9
<b>IUPAC Name</b>	selenium; selenoxindium
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Se].[InH3]
<b>Inchl Identifier</b>	InChI=1S/In.Se.3H
<b>Inchl Key</b>	ARXPWNHALSRYFN-UHFFFAOYSA-N
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H301-H331-H373-H410
<b>Hazard Codes</b>	T,N
<b>Risk Codes</b>	23/25-33-50/53
<b>Safety Statements</b>	20/21-28-45-60-61
<b>RTECS Number</b>	N/A
<b>Transport Information</b>	UN 3283 6.1/PG 3
<b>WGK Germany</b>	3
<b>GHS Pictograms</b>	<p><a href="#">GHS08 Health Hazard</a></p>  <p><a href="#">GHS06 Skull and Crossbones</a></p> 

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# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #12056-07-4

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)  
GHS06 Skull and crossbones  
Acute Tox. 3 H301 Toxic if swallowed.  
Acute Tox. 3 H331 Toxic if inhaled.  
GHS08 Health hazard  
STOT RE 2 H373 May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.  
Hazards not otherwise classified No data available  
GHS label elements, including precautionary statements  
Hazard pictograms



GHS06 GHS08  
Signal word Danger  
Hazard statements  
H301+H331 Toxic if swallowed or if inhaled.  
H373 May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure. Route of exposure: Oral,

Inhalative.  
Precautionary statements  
P260 Do not breathe  
dust/fume/gas/mist/vapors/spray.  
P261 Avoid breathing  
dust/fume/gas/mist/vapors/spray.  
P301+P310 IF SWALLOWED: Immediately call a  
POISON CENTER/ doctor  
P304+P340 IF INHALED: Remove person to fresh air  
and keep comfortable for breathing.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance  
with local/regional/national/international regulations.  
WHMIS classification  
D1A - Very toxic material causing immediate and  
serious toxic effects  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
HEALTH  
FIRE  
REACTIVITY  
2  
0  
1  
Health (acute effects) = 2  
Flammability = 0  
Physical Hazard = 1  
Other hazards  
Results of PBT and vPvB assessment  
PBT: N/A  
vPvB: N/A

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances  
CAS No. / Substance Name:  
12056-07-4 Indium selenide  
Identification number(s):  
EC number: 235-016-9  
Index number: 034-002-00-8

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

Description of first aid measures  
General information  
Immediately remove any clothing soiled by the  
product.  
Remove breathing apparatus only after contaminated  
clothing has been completely removed.

In case of irregular breathing or respiratory arrest  
provide artificial respiration.  
If inhaled:  
Supply patient with fresh air. If not breathing, provide  
artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
In case of skin contact:  
Immediately wash with soap and water; rinse  
thoroughly.  
Seek immediate medical advice.  
In case of eye contact:  
Rinse opened eye for several minutes under running  
water. Consult a physician.  
If swallowed:  
Do not induce vomiting; immediately call for medical  
help.  
Information for doctor  
Most important symptoms and effects, both acute and  
delayed:  
No data available  
Indication of any immediate medical attention and  
special treatment needed:  
No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media  
Suitable extinguishing agents Carbon dioxide,  
extinguishing powder or water spray. Fight larger fires  
with water spray or alcohol resistant foam.  
Special hazards arising from the substance or mixture  
If this product is involved in a fire, the following can be  
released:  
Toxic metal oxide fume  
Advice for firefighters  
Protective equipment:  
Wear self-contained respirator.  
Wear fully protective impervious suit.

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

Personal precautions, protective equipment and  
emergency procedures  
Use personal protective equipment. Keep unprotected  
persons away.  
Ensure adequate ventilation  
Environmental precautions: Do not allow material to  
be released to the environment without official  
permits.  
Methods and materials for containment and cleanup:

Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Prevention of secondary hazards: No special measures required.  
Reference to other sections  
See Section 7 for information on safe handling  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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

### Handling

Precautions for safe handling  
Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.  
Open and handle container with care.  
Information about protection against explosions and fires: No data available  
Conditions for safe storage, including any incompatibilities  
Requirements to be met by storerooms and receptacles: No special requirements.  
Information about storage in one common storage facility: No data available  
Further information about storage conditions:  
Keep container tightly sealed.  
Store in cool, dry conditions in well-sealed containers.  
Specific end use(s) No data available

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## **SECTION 8. EXPOSURE CONTROLS/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.  
Control parameters  
Components with limit values that require monitoring at the workplace:  
Selenium and selenium compounds (as Se)  
mg/m<sup>3</sup>  
ACGIH TLV 0.2  
Austria MAK 0.1  
Belgium TWA 0.2  
Denmark TWA 0.1  
Finland TWA 0.1; 0.3-STEL  
Germany MAK 0.1

Hungary 0.1-STEL  
Ireland TLV 0.1  
Japan OEL 0.1  
Korea TLV 0.2  
Netherlands MAC-TGG 0.1  
Poland TWA 0.1; 0.3-STEL  
Sweden NGV 0.1  
Switzerland MAK-W 0.1  
United Kingdom TWA 0.1  
USA PEL 0.2  
Indium and compounds  
mg/m<sup>3</sup>  
ACGIH TLV 0.1(In)  
Belgium TWA 0.1  
Denmark TWA 0.1(In)  
Finland TWA 0.1  
Korea TLV 0.1(In)  
Netherlands MAC-TGG 0.1  
Norway TWA 0.1  
Switzerland MAK-W 0.1  
United Kingdom TWA 0.1(In); 0.3(In)-STEL  
USA PEL 0.1(In)  
Additional information: No data  
Exposure controls  
Personal protective equipment  
Follow typical protective and hygienic practices for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Maintain an ergonomically appropriate working environment.  
Breathing equipment: Use self-contained respiratory protective device in emergency situations.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.  
Eye protection: Safety glasses  
Body protection: Protective work clothing.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties  
Appearance:  
Form: Crystalline solid  
Color: Silver grey  
Odor: Odorless

Odor threshold: No data available.  
pH: N/A  
Melting point/Melting range: 890 °C (1634 °F)  
((approx))  
Boiling point/Boiling range: No data available  
Sublimation temperature / start: No data available  
Flash point: N/A  
Flammability (solid, gas) No data available.  
Ignition temperature: No data available  
Decomposition temperature: No data available  
Autoignition: No data available.  
Danger of explosion: Product does not present an  
explosion hazard.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure: N/A  
  
Density at 20 °C (68 °F): 5.67 g/cm<sup>3</sup> (47.316 lbs/gal)  
Relative density No data available.  
Vapor density N/A  
Evaporation rate N/A  
Solubility in / Miscibility with  
Water: Insoluble  
Partition coefficient (n-octanol/water): No data  
available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity No data available  
Chemical stability Stable under recommended storage  
conditions.  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored  
according to specifications.  
Possibility of hazardous reactions No dangerous  
reactions known  
Conditions to avoid No data available  
Incompatible materials:  
None known.  
No data available  
Hazardous decomposition products: Toxic metal oxide  
fume

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects

Acute toxicity:  
Toxic if inhaled.  
Toxic if swallowed.  
LD/LC50 values that are relevant for classification: No data  
Skin irritation or corrosion: Irritant to skin and mucous membranes.  
Eye irritation or corrosion: Irritating effect.  
Sensitization: No sensitizing effects known.  
Germ cell mutagenicity: No effects known.  
Carcinogenicity:  
EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.  
NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.  
IARC-3: Not classifiable as to carcinogenicity to humans.  
Reproductive toxicity: No effects known.  
Specific target organ system toxicity - repeated exposure:  
May cause damage to the central nervous system, the liver and the digestive system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.  
Specific target organ system toxicity - single exposure: No effects known.  
Aspiration hazard: No effects known.  
Subacute to chronic toxicity:  
Selenium may cause amyotrophic lateral sclerosis, bronchial irritation, gastrointestinal distress, vasopharyngeal irritation, garlic odor on breath and sweat, metallic taste, pallor, irritability, excessive fatigue, loss of fingernails and hair, pulmonary edema, anemia and weight loss.  
Exposure to indium compounds may cause pain in the joints and bones, tooth decay, nervous and gastrointestinal disorders, heart pain and general debility.  
Experiments with animals also indicate that indium may cause reduced food and water consumption with weight loss, pulmonary edema, pneumonia, blood, liver and kidney damage, leg paralysis and damage to the brain, heart, adrenals and spleen.  
Subacute to chronic toxicity: No effects known.  
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity

Aquatic toxicity: No data available

Persistence and degradability No data available

Bioaccumulative potential No data available

Mobility in soil No data available

Ecotoxical effects:

Remark: Very toxic for aquatic organisms

Additional ecological information:

Do not allow material to be released to the environment without official permits.

Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

Other adverse effects No data available

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

Not a hazardous material for transportation.

UN-Number

DOT, IMDG, IATA None

UN proper shipping name

DOT, IMDG, IATA None

Transport hazard class(es)

DOT, IMDG, IATA

Class None

Class None

Label 6.1

Packing group

DOT, IMDG, IATA None

Environmental hazards: Environmentally hazardous substance, solid

Special precautions for user N/A

Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code N/A  
Transport/Additional information: Not dangerous  
according to the above specifications.  
DOT  
Marine Pollutant (DOT): No

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## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental  
regulations/legislation specific for the substance or  
mixture  
GHS label elements, including precautionary  
statements  
Hazard pictograms  
GHS06 GHS08  
Signal word Danger  
Hazard statements  
H301+H331 Toxic if swallowed or if inhaled.  
H373 May cause damage to the central nervous  
system, the liver and the digestive system through  
prolonged or repeated exposure. Route of exposure:  
Oral,  
Inhalative.  
Precautionary statements  
P260 Do not breathe  
dust/fume/gas/mist/vapors/spray.  
P261 Avoid breathing  
dust/fume/gas/mist/vapors/spray.  
P301+P310 IF SWALLOWED: Immediately call a  
POISON CENTER/ doctor  
P304+P340 IF INHALED: Remove person to fresh air  
and keep comfortable for breathing.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance  
with local/regional/national/international regulations.  
National regulations  
All components of this product are listed in the U.S.  
Environmental Protection Agency Toxic Substances  
Control Act Chemical substance Inventory.  
All components of this product are listed on the  
Canadian Non-Domestic Substances List (NDSL).  
SARA Section 313 (specific toxic chemical listings)  
12056-07-4 Indium selenide  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
Substance is not listed.  
Prop 65 - Developmental toxicity Substance is not  
listed.  
Prop 65 - Developmental toxicity, female Substance is  
not listed.  
Prop 65 - Developmental toxicity, male Substance is

not listed.

Information about limitation of use:

For use only by technically qualified individuals.

This product contains selenium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986

and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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