

<a href="#">Zinc Arsenide Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Zinc Arsenide Zn<sub>3</sub>As<sub>2</sub></a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	Zn <sub>3</sub> As <sub>2</sub>
<b>Pubchem CID</b>	25147458
<b>MDL Number</b>	MFCD00049629
<b>EC No.</b>	234-486-2
<b>IUPAC Name</b>	N/A
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Zn].[Zn]=[As].[Zn]=[As]
<b>Inchl Identifier</b>	InChI=1S/2As.3Zn
<b>Inchl Key</b>	RHKSESDHCKYTHI-UHFFFAOYSA-N

<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H301-H331-H410
<b>Hazard Codes</b>	T,N
<b>Risk Codes</b>	23/25-50/53
<b>Safety Statements</b>	20/21-28-45-60-61
<b>RTECS Number</b>	N/A
<b>Transport Information</b>	UN 1557 6.1/PG 2
<b>WGK Germany</b>	3

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## SAFETY DATA SHEET

Date Accessed: 05/17/2024

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### SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #12006-40-5

**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  
Classification according to Regulation (EC) No 1272/2008  
GHS06 Skull and crossbones  
Acute Tox. 3 H301 Toxic if swallowed.  
Acute Tox. 3 H331 Toxic if inhaled.  
Classification according to Directive 67/548/EEC or Directive 1999/45/EC  
T; Toxic  
R23/25: Toxic by inhalation and if swallowed.  
N; Dangerous for the environment  
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Information concerning particular hazards for human and environment:  
N/A  
Hazards not otherwise classified  
No data available  
Label elements  
Labelling according to Regulation (EC) No 1272/2008  
The substance is classified and labeled according to the CLP regulation.  
Hazard pictograms



GHS06  
Signal word  
Danger  
Hazard statements  
H301+H331 Toxic if swallowed or if inhaled.  
Precautionary statements  
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.  
P311 Call a POISON CENTER/doctor/...  
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

D2A - Very toxic material causing other toxic effects

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

3

0

1

Health (acute effects) = 3

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:

12006-40-5 Zinc arsenide

Identification number(s):

EC number:

234-486-2

Index number:

033-002-00-5

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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  
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.  
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.  
Do not allow product to enter drains, sewage systems, or other water courses.  
Do not allow material to penetrate the ground or soil.  
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:

The product is not flammable  
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:

Store away from oxidizing agents.  
Store away from halogens.  
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:  
Arsenic, elemental, and inorganic compounds (except arsine), as As  
mg/m<sup>3</sup>  
ACGIH TLV 0.01; Confirmed human carcinogen  
Belgium TWA 0.2  
Denmark TWA 0.05  
Finland TWA Carcinogen

France VME 0.2  
Hungary 0.5-STEL; Carcinogen  
Korea TWA 0.01; Confirmed human carcinogen  
Norway 0.02  
Poland TWA 0.01  
Sweden NGV 0.03; Carcinogen  
Switzerland TWA 0.1; Carcinogen  
United Kingdom TWA 0.1; Carcinogen  
USA PEL 0.01  
12006-40-5 Zinc arsenide (100.0%)

PEL (USA) Long-term value: 0.01 mg/m<sup>3</sup>  
as As; 29CFR1910.1018

REL (USA) Ceiling limit value: 0.002 mg/m<sup>3</sup>  
as As; 15min; See Pocket Guide App. A

TLV (USA) Long-term value: 0.01 mg/m<sup>3</sup>  
as As; BEI

EL (Canada) Long-term value: 0.01 mg/m<sup>3</sup>  
as As; ACIGH A1, IARC1

EV (Canada) Short-term value: 0.05 mg/m<sup>3</sup>

Long-term value: 0.01 mg/m<sup>3</sup>  
as As

Ingredients with biological limit values:

12006-40-5 Zinc arsenide (100.0%)

BEI (USA) 35 µg As/L

Medium: urine

Time: end of workweek

Parameter: Inorganic arsenic plus methylated  
metabolites

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:

Refer to 29CFR1910.1018 for regulations on  
respiratory protection required during exposure to  
inorganic arsenic.

Use self-contained respiratory protective device in  
emergency situations.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

Suitability of gloves should be determined both by  
material and quality, the latter of which may vary by  
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: Solid

Color: Silver grey

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 1015 °C (1859 °F)

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): 5.528 g/cm<sup>3</sup> (46.131 lbs/gal)

Relative density

No data available.

Vapor density

N/A

Evaporation rate

N/A

Solubility in Water (H<sub>2</sub>O): 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:  
Oxidizing agents  
Halogens  
Halocarbons  
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-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer.  
IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.  
ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.  
Carcinogen as defined by OSHA.  
NTP-K: Known to be carcinogenic: sufficient evidence from human studies.  
Reproductive toxicity:  
No effects known.  
Specific target organ system toxicity - repeated exposure:  
No effects known.  
Specific target organ system toxicity - single exposure:  
No effects known.



Aspiration hazard:

No effects known.

Subacute to chronic toxicity:

Acute arsenic poisoning from ingestion results in marked irritation of the stomach and intestines with nausea, vomiting and diarrhea. In severe cases, the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma and death.

Chronic arsenic poisoning may cause disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea.

Zinc fumes may cause metal fume fever. Effects include dry throat, metallic taste, chest pain, dyspnea, rales and dry cough.

Several hours later, chills may occur with lassitude, malaise, fatigue, headache, back pain, muscle cramps, blurred vision, nausea, fever, perspiration, vomiting and leukocytosis.

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

Ecotoxicological 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**

UN-Number  
DOT, IMDG, IATA  
UN1557  
UN proper shipping name  
DOT  
Arsenic compounds, solid, n.o.s. (Zinc arsenide)  
IMDG, IATA  
ARSENIC COMPOUND, SOLID, N.O.S. (Zinc  
arsenide)  
Transport hazard class(es)  
DOT  
Class  
6.1 Toxic substances.  
Label  
6.1  
Class  
6.1 (T5) Toxic substances  
Label  
6.1  
IMDG, IATA  
Class  
6.1 Toxic substances.  
Label  
6.1  
Packing group  
DOT, IMDG, IATA  
II  
Environmental hazards:  
Environmentally hazardous substance, solid  
Special precautions for user  
Warning: Toxic substances  
Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code

N/A

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

UN "Model Regulation":

UN1557, Arsenic compounds, solid, n.o.s. (Zinc arsenide), 6.1, II

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## **SECTION 15. REGULATORY INFORMATION**

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

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)

12006-40-5 Zinc arsenide

California Proposition 65

Prop 65 - Chemicals known to cause cancer

12006-40-5 Zinc arsenide

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 arsenic and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

This product contains zinc 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 Refer to 29CFR1910.1018 for regulations concerning inorganic arsenic.

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.  
REACH - Pre-registered substances  
Substance is 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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