

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Name: Beryllium Chloride

Product Number: All applicable American Elements product codes, e.g. BE-CL-02 , BE-CL-03 , BE-CL-04 , BE-CL-05

CAS #: 7787-47-5

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

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. 2 H330 Fatal if inhaled.

GHS08 Health hazard

Carc. 1B

H350 May cause cancer.

STOT RE 1 H372 Causes damage to the lung and the blood through prolonged or repeated exposure.

Route of exposure: Inhalative.

GHS07

Skin Irrit. 2

H315 Causes skin irritation.

Eye Irrit. 2

H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

Hazards not otherwise classified

No data available

GHS label elements

GHS label elements, including precautionary statements
Hazard pictograms



GHS06 GHS08

Signal word

Danger

Hazard statements

H301 Toxic if swallowed.

H330 Fatal if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

H335 May cause respiratory irritation.

H372 Causes damage to the lung and the blood through prolonged or repeated exposure. Route of exposure: Inhalative.

Precautionary statements

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P301+P310

IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P320

Specific treatment is urgent (see on this label).

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 (acute effects) = 3

Flammability = 0

Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

CAS No. / Substance Name:

7787-47-5 Beryllium chloride

Identification number(s):
EC number: 232-116-4
Index number: 004-002-00-2

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

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:

Hydrogen chloride (HCl)

Toxic metal oxide fume

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

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.

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

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:
Beryllium and compounds, as Be
mg/m³
ACGIH TLV 0.00005; 0.0002-ST
EL (inhalable fraction);
Confirmed human carcinogen
Austria Carcinogen
Belgium TWA 0.002; Carcinogen
Denmark TWA 0.001
Finland TWA 0.002; 0.006-STEL; Carcinogen
France VME 0.002; C2 Carcinogen
Germany Carcinogen
Hungary TWA 0.001; Carcinogen
Japan OEL 0.002; 2A Carcinogen
Korea TLV 0.002; 0.01-STEL; Confirmed human carcinogen
Netherlands MAC-TGG 0.002; Carcinogen

Norway TWA 0.001
Poland TWA 0.001; 0.003-STEL
Russia 0.001-STEL; Carcinogen
Sweden NGV 0.002; Carcinogen
Switzerland MAK-W 0.002; Carcinogen
United Kingdom TWA 0.002; Carcinogen
USA PEL 0.002
7787-47-5 Beryllium chloride (100.0%)
PEL (USA)

Long-term value: 0.002 mg/m³

Ceiling limit value: 0.005; 0.025* mg/m³
as Be; *30 min peak per 8-hr shift
REL (USA)

Ceiling limit value: 0.0005 mg/m³
as Be; See Pocket Guide App. A
TLV (USA)

Long-term value: 0.00005* mg/m³
as Be;*inhalable; (SEN)NIC-DSEN;RSEN;Skin

EL (Canada) Long-term value: 0.002 mg/m³
as Be; ACIGH A1, IARC 1

EV (Canada) Short-term value: 0.01 mg/m³

Long-term value: 0.002 mg/m³
as Be

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.

Avoid contact with the eyes and skin.

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.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Solid
Color: White
Odor: Odorless
Odor threshold: Not determined.
pH: N/A
Melting point/Melting range: 399 °C (750 °F)
Boiling point/Boiling range: 520 °C (968 °F)
Sublimation temperature / start: Not determined
Flash point: N/A
Flammability (solid, gas)
Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Autoignition: Not determined.
Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined
Upper: Not determined
Vapor pressure: N/A
Density at 20 °C (68 °F): 1.899 g/cm³ (15.847 lbs/gal)
Relative density
Not determined.
Vapor density
N/A
Evaporation rate
N/A
Solubility in Water (H₂O): Reacts with water forming hydrochloric acid (HCl)
Heating occurs when water is added
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information
No data available

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
Reacts with water forming
hydrochloric acid (HCl)
Heating occurs when water is added
Conditions to avoid
No data available
Incompatible materials:
Bases
No data available
Hazardous decomposition products:

Hydrogen chloride (HCl)
Toxic metal oxide fume

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:

Fatal if inhaled.

Toxic if swallowed.

LD/LC50 values that are relevant for classification:

Beryllium chloride (CAS# 7787-47-5)

Oral: LD50: 92 mg/kg (mus)

LD50: 86 mg/kg (rat)

Skin irritation or corrosion:

Causes skin irritation.

Eye irritation or corrosion:

Causes serious eye irritation.

Sensitization:

May cause an allergic skin reaction.

Germ cell mutagenicity:

No effects known.

Carcinogenicity:

May cause cancer.

EPA-B2: Probable human carcinogen, sufficient evidence from animal studies; inadequate evidence or no data from epidemiologic studies.

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

Reproductive toxicity:

No effects known.

Specific target organ system toxicity - repeated exposure:

Causes damage to the lung and the blood through prolonged or repeated exposure. Route of exposure: Inhalative.

Specific target organ system toxicity - single exposure:

May cause respiratory irritation.

Aspiration hazard:

No effects known.

Other information (about experimental toxicology):

Mutagenic effects have been observed on tests with laboratory animals.

Mutagenic effects have been observed on tests with bacteria.

Tumorigenic effects have been observed on tests with laboratory animals.

Carcinogenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:

Acute exposure to beryllium may cause dermatitis, chronic skin ulcers, rhinitis, nasopharyngitis, epistaxis, bronchitis, pneumonitis possibly fatal, fever, rales, dyspnea and substernal pain. Chronic exposure causes a delayed form of lung disease which may be delayed for five years or more after exposure stops.

Symptoms include coughing, shortness of breath, loss of appetite, weight loss and fatigue. Cyanosis is common with elevated pulse and respiratory rates. This disease may progress to death from cardiac

or respiratory failure.

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.

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:

Toxic for aquatic organisms

Additional ecological information:

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

Toxic for aquatic organisms

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.

Toxic to aquatic life.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

Other adverse effects

No data available

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.

SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA
UN1566
UN proper shipping name
DOT
Beryllium compounds, n.o.s. (Beryllium chloride)
IMDG, IATA
BERYLLIUM COMPOUND, N.O.S. (Beryllium chloride)
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
Item:
UN "Model Regulation":
UN1566, Beryllium compounds, n.o.s. (Beryllium chloride), 6.1, II

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS GHS label elements, including precautionary statements
Hazard pictograms
GHS06
GHS08
Signal word
Danger
Hazard statements
H301 Toxic if swallowed.
H330 Fatal if inhaled.
H315 Causes skin irritation.
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Precautionary statements

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P320

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P405

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P501

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National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

SARA Section 313 (specific toxic chemical listings)

7787-47-5 Beryllium chloride

California Proposition 65

Prop 65 - Chemicals known to cause cancer

7787-47-5 Beryllium chloride

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 beryllium 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.

SECTION 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 1997-2018 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.