

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Beryllium Sulfate Tetrahydrate

**Product Code:** BE-SAT-04-C.4HYD

**CAS Number:** 7787-56-6

**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:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 2), H330

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Skin sensitisation (Category 1), H317

Carcinogenicity (Category 1B), H350

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Specific target organ toxicity - repeated exposure (Category 1), H372

Acute aquatic toxicity (Category 2), H401

Chronic aquatic toxicity (Category 2), H411

GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H301 Toxic if swallowed.

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H330 Fatal if inhaled.  
H335 May cause respiratory irritation.  
H350 May cause cancer.  
H372 Causes damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.  
Precautionary statement(s)  
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.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P284 Wear respiratory protection.  
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P391 Collect spillage.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.  
Hazards not otherwise classified (HNOC) or not covered by GHS - none

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

Substances

Formula :  $\text{BeO}_4\text{S} \cdot 4\text{H}_2\text{O}$

Molecular weight : 177.14 g/mol

CAS-No. : 7787-56-6

EC-No. : 236-842-2

Index-No. : 004-002-00-2

Hazardous components

Component

Beryllium sulfate tetrahydrate

Classification

Acute Tox. 3; Acute Tox. 2; Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; Carc. 1B; STOT SE 3; STOT RE 1; Aquatic Acute 2; Aquatic Chronic 2; H301, H315, H317, H319, H330, H335, H350, H372, H411

Concentration

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

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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 media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

No data available

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available

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

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections  
For disposal see section 13.

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## SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of Vapor or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build

up of electrostatic charge.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully

resealed and kept upright to prevent leakage.

Never allow product to get in contact with water during storage. Do not store near acids.

Handle and store under inert gas. Handle and open container with care. Air sensitive.

Storage class (TRGS 510): Flammable liquids

Specific end use(s)

No other specific uses are stipulated

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Component / CAS-No.

Beryllium sulfate tetrahydrate / 7787-56-6

Value / Control parameters / Basis

TWA / 2.00 µg/m<sup>3</sup> / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

CEIL / 5.00 µg/m<sup>3</sup> / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

Peak / 25.00 µg/m<sup>3</sup> / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

TWA / 0.000050 mg/m<sup>3</sup> / USA. ACGIH Threshold Limit Values (TLV)

Beryllium sensitization

Chronic beryllium disease (berylliosis)

Confirmed human carcinogen

Danger of cutaneous absorption

Sensitizer

TWA / 0.000050 mg/m<sup>3</sup> / USA. ACGIH Threshold Limit Values (TLV)

Beryllium sensitization

Chronic beryllium disease (berylliosis)

Adopted values or notations enclosed are those for which changes are proposed in the NIC

See Notice of Intended Changes (NIC)

Confirmed human carcinogen

Danger of cutaneous absorption

Sensitizer

C / 0.000500 mg/m<sup>3</sup> / USA. NIOSH Recommended Exposure Limits (Remarks: Potential Occupational Carcinogen; See Appendix A. See Table Z-2)

TWA / 2.000000 µg/m<sup>3</sup> / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

CEIL / 5.000000 µg/m<sup>3</sup> / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

Peak / 25.000000 µg/m<sup>3</sup> / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970; See Table Z-2)

TWA / 2 microgram per cubic meter / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

CEIL / 5 microgram per cubic meter / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

Peak 25 microgram per cubic meter / USA. Occupational Exposure Limits (OSHA) - Table Z-2 (Remarks: Z27.29-1970)

C / 0.0005 mg/m<sup>3</sup> / USA. NIOSH Recommended Exposure Limits (Remarks: Potential Occupational Carcinogen; See Appendix A.)

PEL / 0.0002 mg/m<sup>3</sup> / California permissible exposure limits for chemical contaminants (Title 8, Article 107)

C / 0.025 mg/m<sup>3</sup> / California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate

government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without

touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after

use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to

the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type

N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the

sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and

approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: crystalline

Colour: white

Odor No data available

Odor Threshold No data available  
pH: No data available  
Melting point/range: 550 - 600 °C (1,022 - 1,112 °F)  
Initial boiling point and boiling range: No data available  
Flash point: Not applicable  
Evaporation rate: No data available  
Flammability (solid, gas): No data available  
Upper/lower flammability or explosive limits: No data available  
Vapor pressure: No data available  
Vapor density: No data available  
Relative density: 1.713 g/cm<sup>3</sup> at 25 °C (77 °F)  
Water solubility: No data available  
Partition coefficient: octanol/water: No data available  
Auto-ignition temperature: No data available  
Decomposition temperature: No data available  
Viscosity: No data available  
Explosive properties: No data available  
Oxidizing properties: No data available  
Other safety information  
No data available

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

Reactivity  
No data available  
Chemical stability  
Stable under recommended storage conditions.  
Possibility of hazardous reactions  
No data available  
Conditions to avoid  
No data available  
Incompatible materials  
Strong oxidizing agents  
Hazardous decomposition products  
Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Beryllium oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity  
LD50 Oral - Rat - 82 mg/kg  
Dermal: No data available  
No data available  
Skin corrosion/irritation  
No data available  
Serious eye damage/eye irritation  
No data available  
Respiratory or skin sensitisation  
Germ cell mutagenicity

Human  
lymphocyte  
Cytogenetic analysis  
Human  
lymphocyte  
Sister chromatid exchange  
Hamster  
Embryo  
Cytogenetic analysis  
Hamster  
Embryo  
Morphological transformation.  
Hamster  
Embryo  
Sister chromatid exchange  
Rat  
Other mutation test systems  
Carcinogenicity  
Carcinogenicity - Rat - Inhalation  
Tumorigenic: Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors.  
Possible human carcinogen  
IARC: 1 - Group 1: Carcinogenic to humans (Beryllium sulfate tetrahydrate)  
NTP: Known - Known to be human carcinogenThe reference note has been added by TD based on the background information of the NTP. (Beryllium sulfate tetrahydrate)  
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.  
Reproductive toxicity  
No data available  
No data available  
Specific target organ toxicity - single exposure  
May cause respiratory irritation.  
Specific target organ toxicity - repeated exposure  
Causes damage to organs through prolonged or repeated exposure.  
Aspiration hazard  
No data available  
Additional Information  
RTECS: DS5000000

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity  
No data available  
Persistence and degradability  
Biodegradability Result: - Not readily biodegradable.  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Results of PBT and vPvB assessment  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted  
Other adverse effects  
Toxic to aquatic life with long lasting effects.  
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste

disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a

chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

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## SECTION 14. TRANSPORT INFORMATION

DOT (US)

UN number: 1566 Class: 6.1 Packing group: II

Proper shipping name: Beryllium compounds, n.o.s. (Beryllium sulfate tetrahydrate)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 1566 Class: 6.1 Packing group: II EMS-No: F-A, S-A

Proper shipping name: BERYLLIUM COMPOUND, N.O.S. (Beryllium sulfate tetrahydrate)

Marine pollutant:yes

IATA

UN number: 1566 Class: 6.1 Packing group: II

Proper shipping name: Beryllium compound, n.o.s. (Beryllium sulfate tetrahydrate)

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## SECTION 15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Beryllium sulfate tetrahydrate

CAS-No.

7787-56-6

Revision Date

1993-04-24

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Beryllium sulfate tetrahydrate

CAS-No.

7787-56-6

Revision Date

1993-04-24

Pennsylvania Right To Know Components

Beryllium sulfate tetrahydrate

CAS-No.

7787-56-6



Revision Date  
1993-04-24  
Beryllium sulfate tetrahydrate  
CAS-No.  
7787-56-6  
Revision Date  
1993-04-24  
New Jersey Right To Know Components  
Beryllium sulfate tetrahydrate  
CAS-No.  
7787-56-6  
Revision Date  
1993-04-24  
California Prop. 65 Components  
WARNING! This product contains a chemical known to the  
State of California to cause cancer.  
Beryllium sulfate tetrahydrate  
CAS-No.  
7787-56-6  
Revision Date  
2007-09-28

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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.