SAFETY DATA SHEET

Date Printed: 03/28/2024
Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifier: (3N) 99.9% Barium Hydride

Product Code: BA-HID-03

CAS Number: 13477-09-3

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
GHS02 Flame
Water-react. 1 H260 In contact with water releases flammable gases, which may ignite spontaneously.
GHS07
Acute Tox. 4
H302 Harmful if swallowed.
Acute Tox. 4
H332 Harmful if inhaled.
GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms



GHS02
GHS07
Signal word
Danger
Hazard-determining components of labeling: barium dihydride
Hazard statements

H260
In contact with water releases flammable gases, which may ignite spontaneously.
H302+H332 Harmful if swallowed or if inhaled.
Precautionary statements
P231+P232
Handle under inert gas. Protect from moisture.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233
Store in a well-ventilated place. Keep container tightly closed.
P422
Store contents under inert gas.
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.
Classification system: NFPA ratings (scale 0 - 4)
Health = 3
Fire = 0
Reactivity = 0
HMIS-ratings (scale 0 - 4)
Health = 2
Fire = 0
Reactivity = 0
Other hazards
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS # / Substance Name
13477-09-3 barium dihydride
Identification number(s)
EC number: 236-763-3
Index number: 056-002-00-7

SECTION 4. FIRST AID MEASURES

Description of first aid measures
General information:
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
If inhaled:
Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
In case of skin contact:
Immediately rinse with water.

In case of eye contact:
Rinse opened eye for several minutes under running water. Consult a physician.
If swallowed:
Immediately call a doctor.
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:
Sand. Do not use water.
CO_2, sand, extinguishing powder. Do not use water.
For safety reasons unsuitable extinguishing agents: Water
Special hazards arising from the substance or mixture
No data available
Advice for firefighters
Protective equipment:
Mouth respiratory protective device.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Keep unprotected persons away.
Environmental precautions:
Do not allow product to enter drains, sewage systems, or other water courses.
Inform respective authorities in case of see page into water courses, or sewage systems.
Methods and materials for containment and cleanup:
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
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
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Information about protection against explosions and fires:
Keep ignition sources away - Do not smoke.
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:
Not required.
Further information about storage conditions:
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Specific end use(s)
No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
No further data; see item 7.
Control parameters
Components with limit values that require monitoring at the workplace:
13477-09-3 barium dihydride

PEL Long-term value: 0.5 mg/m^3 as Ba

REL Long-term value: 0.5 mg/m^3 as Ba

TLV Long-term value: 0.5 mg/m^3 as Ba
Additional information:
The lists that were valid during the creation were used as basis.
Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Protection of hands:
Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye protection: Safety glasses

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Crystalline

Color: Grey
Odor: Odorless
Odor threshold: No data available.
pH: N/A
Melting point/Melting range: 675 dec °C (1247 dec °F)
Boiling point/Boiling range: No data available.
Flash point: N/A
Flammability (solid, gas): Product is not flammable.
Ignition temperature: No data available.
Decomposition temperature: No data available.
Autoignition: No data available.
Danger of explosion: No data available.
Explosion limits: No data available.
Lower: No data available.
Upper: No data available.
Vapor pressure: no data hPa

Density at 20 °C (68 °F): 4.21 g/cm^3 (35.132 lbs/gal)
Relative density: No data available.
Vapor density: N/A
Evaporation rate: N/A
Solubility in Water (H_2O): Insoluble.

Partition coefficient (n-octanol/water): No data available.
Viscosity: No data available.
Dynamic: N/A
Kinematic: N/A
Solvent content: No data available.
Organic solvents: 0.0 %
VOC content: 0.0 g/l / 0.00 lb/gl
Solids content: 100.0 %
Other information: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
No data available
Chemical stability
Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
Possibility of hazardous reactions
No dangerous reactions known.
Conditions to avoid
No data available
Incompatible materials: No data available
Hazardous decomposition products: No dangerous decomposition products known

---

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Primary irritant effect:
on the skin:

No irritant effect.
on the eye:
No irritating effect.
Sensitization:
No sensitizing effects known.
Additional toxicological information:
Carcinogenic categories
IARC (International Agency for Research on Cancer)
Substance is not listed.
NTP (National Toxicology Program)
Substance is not listed.
OSHA-Ca (Occupational Safety & Health Administration)
Substance is not listed.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No data available
Persistence and degradability
No data available
Behavior in environmental systems:
Bioaccumulative potential
No data available
Mobility in soil
No data available
Additional ecological information:
Not known to be hazardous to water.
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:
Must not be disposed of together with household garbage. Do not allow product to enter drains, sewage systems, or other water courses system.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN3134
UN proper shipping name
DOT, IATA

Water-reactive solid, toxic, n.o.s.
IMDG
WATER-REACTIVE SOLID, TOXIC, N.O.S.
Transport hazard class(es)
DOT
Class
4.3 Substances which, in contact with water, emit flammable gases
Label
4.3, 6.1
IMDG
Class
4.3 Substances which, in contact with water, emit flammable gases
Label
4.3/6.1
IATA
Class
4.3 Substances which, in contact with water, emit flammable gases
Label
4.3 (6.1)
Packing group
DOT, IMDG, IATA
I
Environmental hazards:
Marine pollutant:
No
Special precautions for user
N/A
Danger code (Kemler):
423
EMS Number:
F-G,S-N
Stowage Category
D
Handling Code
H1 Keep as dry as reasonably practicable
Segregation Code
SG26 In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Quantity limitations
On passenger aircraft/rail: Forbidden
On cargo aircraft only: 15 kg
IMDG
Limited quantities (LQ)

Excepted quantities (EQ)
Code: E0
Not permitted as Excepted Quantity
UN "Model Regulation":
UN 3134 WATER-REACTIVE SOLID, TOXIC, N.O.S., 4.3 (6.1), I

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
Sara
Section 355 (extremely hazardous substances):
Substance is not listed.
Section 313 (Specific toxic chemical listings):
Substance is listed.
TSCA (Toxic Substances Control Act):
Substance is listed.
Proposition 65
Chemicals known to cause cancer:
Substance is not listed.
Chemicals known to cause reproductive toxicity for females:
Substance is not listed.
Chemicals known to cause reproductive toxicity for males:
Substance is not listed.
Chemicals known to cause developmental toxicity:
Substance is not listed.
Carcinogenic categories
EPA (Environmental Protection Agency)
13477-09-3 barium dihydride
D, CBD(inh), NL(oral)
TLV (Threshold Limit Value established by ACGIH)
Substance is not listed.
NIOSH-Ca (National Institute for Occupational Safety and Health)
Substance is not listed.
GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms
GHS02
GHS07
Signal word
Danger
Hazard-determining components of labeling: barium dihydride
Hazard statements
H260
In contact with water releases flammable gases, which may ignite spontaneously.
H302+H332 Harmful if swallowed or if inhaled.
Precautionary statements
P231+P232
Handle under inert gas. Protect from moisture.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233
Store in a well-ventilated place. Keep container tightly closed.
P422
Store contents under inert gas.
P501
Dispose of contents/container in accordance with local/regional/national/international regulations.
Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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.