



Safety Data Sheet

Date of Issue: 04.10.2021

Date of Expiry: 04.10.2026

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : ECP Limited
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Product Name	Sodium Borohydride
Product Code	46108
CAS No.	16940-66-2

Recommended use : Laboratory Investigations

2: Hazard's identification

2.1 GHS Classification

Substances and mixtures, which in contact with water, emit flammable gases (Category A), H260

Acute toxicity, Oral (Category C), H301

Acute toxicity, Dermal (Category C), H311

Skin corrosion (Category B), H314

Serious eye damage (Category A), H318

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : **Danger**

Hazard statement(s)

H260 In contact with water releases flammable gases which may ignite spontaneously.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

Prevention

P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.

P231 + P232 Handle under inert gas. Protect from moisture.

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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

P310 Immediately call a POISON CENTER/doctor.

P322 Specific measures (see supplemental first aid instructions on this label).

P335 + P334 Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.

P361 Remove/Take off immediately all contaminated clothing.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

P402 + P404 Store in a dry place. Store in a closed container.

P405 Store locked up.

P422 Store contents under inert gas.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards - none

3: Composition/information on ingredients

3.1 Substances

Synonyms	:	Sodium tetrahydridoborate
Formula	:	H4BNa
Molecular weight	:	37.83 g/mol
CAS-No.	:	16940-66-2
EC-No.	:	241-004-4

4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation :

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

First-aid measures after skin contact :

Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.

Immediately call a POISON CENTER or doctor/physician. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Specific measures (see ... on this label). Wash contaminated clothing before reuse. Rinse skin with water/shower.

First-aid measures after eye contact :

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion :

Rinse mouth. Immediately call a POISON CENTER or doctor/physician. Specific treatment (see ... on this label). Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes severe skin burns and eye damage.
Symptoms/injuries after skin contact : Toxic in contact with skin.
Symptoms/injuries after ingestion : Toxic if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically

5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media :
dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

Unsuitable extinguishing media :
Do not use extinguishing media containing water.

5.2. Special hazards arising from the substance or mixture

Fire hazard :
In contact with water releases flammable gases which may ignite spontaneously.

Explosion hazard :
Explosion risk in case of fire.

5.3. Advice for firefighters

Protection during firefighting :
Do not attempt to take action without suitable protective equipment.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas.
Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed :
Keep away from any possible contact with water, because of violent reaction and possible flash fire.

Precautions for safe handling :
Protect from moisture. Handle under inert gas.
Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures :

Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling.

Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	:	Comply with applicable regulations.
Storage conditions	:	Store in a dry place. Protect from moisture.
Incompatible materials	:	Keep away from any possible contact with water, because of violent reaction and possible flash fire.

7.3. Specific end use(s)

No additional information available

8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

We are not aware of any national exposure limit.

8.2 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

Hand protection	:	protective gloves
Eye protection	:	Chemical goggles or face shield
Skin and body protection	:	Wear suitable protective clothing
Respiratory protection	:	Wear appropriate mask

9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	White crystals.
Odour	:	odourless.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	400 °C
Freezing point	:	No data available
Boiling point	:	4000 °C
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	In contact with water releases flammable gases which may ignite spontaneously
Vapour pressure	:	No data available
Relative vapour density at 20 °C :	:	1.3
Relative density	:	No data available
Density	:	1.074 g/cm ³
Solubility	:	Water: Soluble in water
Log Pow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available

Oxidising properties : No data available
Explosive limits : ≥ 0.0302 vol %

9.2. Other information

No additional information available

10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

In contact with water releases flammable gases which may ignite spontaneously.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours

11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Dermal : Toxic in contact with skin. Oral: Toxic if swallowed.

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Serious eye damage, category 1, implicit

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Additional Information

RTECS: ED3325000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Decomposition of the substance with tissue moisture.

After absorption:

CNS disorders, Headache

Other information

The following applies to boron compounds in general: resorption is followed by nausea and vomiting, agitation, spasms, CNS disorders, cardiovascular disorders.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h

Remarks: (External MSDS)

Toxicity to bacteria

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Forms toxic mixtures in water, dilution measures notwithstanding.

Discharge into the environment must be avoided.

13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	1426	1426	1426
14.2	UN Proper Shipping name	SODIUM BOROHYDRIDE	SODIUM BOROHYDRIDE	Sodium Borohydride
14.3	Transport Hazard Class	4.3	4.3	4.3
14.4	Packaging group	I	I	I
14.5	Environmental Hazards	No	No	No
14.6	Special precautions for user	None		

14.7	Incompatible materials	Oxidizing agents, chemically active metals, acids, Reacts violently with water.
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15: Regulatory information

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

National regulatory information

HSNO Approval Code: HSR001294

HSNO Group Standard Approval: Outside of Group Standard

Tracking Required: 4.3A, 6.1C

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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