

# Safety Data Sheet

*acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)*

Printing date 03/04/2015

Reviewed on 11/24/2014

## 1 Identification

- **Product identifier**
- **Trade name:** Sodium borohydride
- **Article number:** 217465
- **CAS Number:**  
16940-66-2
- **EC number:**  
241-004-4
- **Application of the substance / the mixture** *Laboratory chemicals for research and development*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*BeanTown Chemical  
9 Sagamore Park Road  
Hudson, NH 03051  
USA*
  
- Phone: (603) 402-2234  
Fax: (603) 402-9713  
Email: technical@beantownchem.com  
www.beantownchem.com*
- **Information department:** *Technical Support Department*
- **Emergency telephone number:**  
*During normal operating hours, please call (603) 402-2234  
After hours, please call Chemtrec at (800) 424-9300*

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

*Water-react. 1 H260 In contact with water releases flammable gases which may ignite spontaneously.*



GHS06 Skull and crossbones

*Acute Tox. 3 H301 Toxic if swallowed.*

*Acute Tox. 3 H311 Toxic in contact with skin.*

*Acute Tox. 1 H330 Fatal if inhaled.*



GHS05 Corrosion

*Skin Corr. 1A H314 Causes severe skin burns and eye damage.*

*Eye Dam. 1 H318 Causes serious eye damage.*

- **Label elements**

- **GHS label elements** *The substance is classified and labeled according to the Globally Harmonized System (GHS).*

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015

Reviewed on 11/24/2014

Trade name: Sodium borohydride

(Contd. of page 1)

· **Hazard pictograms**

GHS02   GHS05   GHS06

· **Signal word** *Danger*· **Hazard-determining components of labeling:***Sodium borohydride*· **Hazard statements***In contact with water releases flammable gases which may ignite spontaneously.**Toxic if swallowed or in contact with skin.**Fatal if inhaled.**Causes severe skin burns and eye damage.*· **Precautionary statements***If medical advice is needed, have product container or label at hand.**Keep out of reach of children.**Read label before use.**Keep away from any possible contact with water, because of violent reaction and possible flash fire.**If swallowed: Immediately call a poison center/doctor.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Specific treatment is urgent (see on this label).**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Substances**· **CAS No. Description***16940-66-2 Sodium borohydride*· **Identification number(s)**· **EC number:** 241-004-4

### 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 have been completely removed.**In case of irregular breathing or respiratory arrest provide artificial respiration.*· **After inhalation:***Supply fresh air or oxygen; call for doctor.**In case of unconsciousness place patient stably in side position for transportation.*· **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*· **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*

(Contd. on page 3)

# Safety Data Sheet

*acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)*

Printing date 03/04/2015

Reviewed on 11/24/2014

**Trade name: Sodium borohydride**

(Contd. of page 2)

- **After swallowing:**  
Do not induce vomiting; immediately call for medical help.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Prevent seepage into sewage system, workpits and cellars.  
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
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.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.

(Contd. on page 4)

# Safety Data Sheet

*acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)*

Printing date 03/04/2015

Reviewed on 11/24/2014

**Trade name: Sodium borohydride**

(Contd. of page 3)

- **Further information about storage conditions:**  
 Keep receptacle tightly sealed.  
 Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

## 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:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
 Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing.  
 Wash hands before breaks and at the end of work.  
 Store protective clothing separately.  
 Avoid contact with the eyes.  
 Avoid contact with the eyes and skin.
- **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:** Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Powder
<b>Color:</b>	Not determined.
<b>Odor:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.
- **pH-value:** Not determined.

(Contd. on page 5)

# Safety Data Sheet

*acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)*

Printing date 03/04/2015

Reviewed on 11/24/2014

Trade name: Sodium borohydride

(Contd. of page 4)

· <b>Change in condition</b>	
Melting point/Melting range:	>300 °C (>572 °F) (dec.)
Boiling point/Boiling range:	Undetermined
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	
Decomposition temperature:	Not determined.
· <b>Auto igniting:</b>	Spontaneously flammable in air.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
Lower:	Not determined.
Upper:	Not determined.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density at 20 °C (68 °F):</b>	1.074 g/cm <sup>3</sup> (8.963 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic:	Not determined.
Kinematic:	Not determined.
Organic solvents:	0.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Contact with water releases flammable gases.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.

(Contd. on page 6)

USA

# Safety Data Sheet

acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015

Reviewed on 11/24/2014

Trade name: Sodium borohydride

(Contd. of page 5)

- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **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.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> </ul>                               | UN1426  |
| <ul style="list-style-type: none"> <li>· <b>DOT, IMDG, IATA</b></li> </ul>                         | UN1426  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> </ul>                 | Sodium borohydride  |
| <ul style="list-style-type: none"> <li>· <b>DOT</b></li> <li>· <b>IMDG, IATA</b></li> </ul>        | SODIUM BOROXYDRIDE  |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> </ul>              | 4.3 Substances which, in contact with water, emit flammable gases |
| <ul style="list-style-type: none"> <li>· <b>DOT, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | 4.3 Substances which, in contact with water, emit flammable gases |

(Contd. on page 7)

USA

# Safety Data Sheet

acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 03/04/2015

Reviewed on 11/24/2014

Trade name: Sodium borohydride

(Contd. of page 6)

· <b>Packing group</b>	I
· <b>DOT, IMDG, IATA</b>	I
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Substances which, in contact with water, emit flammable gases
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	UN1426, Sodium borohydride, 4.3, I

## 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 not 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)**

16940-66-2 | Sodium borohydride

I (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.

· **RTECS**

Substance is not listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

USA

(Contd. on page 8)

**Safety Data Sheet**  
*acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)*

Printing date 03/04/2015

Reviewed on 11/24/2014

**Trade name: Sodium borohydride**

(Contd. of page 7)

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **NFPA ratings (scale 0-4)**

Health = 4

Fire = 4

Reactivity = 2

*The substance demonstrates unusual reactivity with water.*

· **HMIS ratings (scale 0-4)**

Health = 4

Fire = 4

Reactivity = 2

· **Department issuing SDS:** *Technical Support Department*

· **Contact:** *Technical Support Department*

· **Date of preparation / last revision** 03/04/2015 / -

· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*Water-react. 1: Substances and Mixtures which, in contact with water, emit flammable gases, Hazard Category 1*

*Acute Tox. 3: Acute toxicity, Hazard Category 3*

*Acute Tox. 1: Acute toxicity, Hazard Category 1*

*Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*

*Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*