

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name Sodium Borohydride Anhydrous

CAS number 16940-66-2

Synonyms SBH; Sodium tetrahydroborate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC
12501 Pauls Valley Road
Austin, Texas 78737
U.S.A.

Telephone 512-668-9918

Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRAC
International 1-352-323-3500 INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Substances/mixtures which, in contact with water, emit flammable gases (Category 1)

Acute oral toxicity (Category 3)

Skin corrosion/irritation (Category 1C)

Serious Eye Damage/Eye Irritation (Category 1)

Reproductive Toxicity (Category 1B)

Specific target organ toxicity - repeated exposure (Category 2)

Target organs - Lungs

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

In contact with water releases flammable gases which may ignite spontaneously
Toxic if swallowed
Causes severe skin burns and eye damage
May damage fertility. May damage the unborn child
Toxic in contact with skin
Causes serious eye damage
Harmful if inhaled

Precautionary statements

Prevention Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
Handle under inert gas. Protect from moisture.

Response Immediately call a POISON CENTER or doctor/physician

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse.
Brush off loose particles from skin. Immerse in cool water/wrap with wet bandages.

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

Ingestion Rinse mouth. Do NOT induce vomiting

Fire In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage Store locked up
Store in a well-ventilated place. Keep container tightly closed.
Store in a dry place. Store in a closed container.

Disposal Dispose of contents/container to an approved waste disposal plant

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Reacts violently with water

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Sodium borohydride	SBH; Sodium tetrahydroborate	16940-66-2	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
If swallowed	Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	CO ₂ , dry chemical, dry sand, alcohol-resistant foam.
Unsuitable extinguishing media	DO NOT USE WATER

5.2 Specific hazards arising from the substance or mixture

Corrosive material. Reacts violently with water. Contact with water liberates extremely flammable gases. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

5.3 Special protective equipment and precautions for firefighters

Hazardous combustion products: Oxides of boron. Hydrogen. Thermal decomposition can lead to release of irritating gases and vapors. Sodium oxides. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 Further information

Flash Point No information available

Autoignition Temperature 220 °C / 428 °F

Explosion limits

Upper No data available

Lower 3.02 vol %

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

Health	Flammability	Instability	Physical hazards
3	3	2	W

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

6.2 Environmental precautions

Avoid release to the environment. See section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Do not expose spill to water. Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Use only under a chemical fume hood. Wear personal protective equipment/face protection. Avoid dust formation. If swallowed then seek immediate medical assistance. Do not breathe (dust, vapor, mist, gas). Do not allow contact with water.

Hygiene measures

Do not get in eyes, on skin, or on clothing. Do not ingest.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep away from water or moist air. Do not store in aluminum containers.

Incompatibilities

Strong oxidizing agents. Aldehydes. Ketones. Acids. Aluminum.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2 Exposure controls

Appropriate engineering controls

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

No information available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid Powder
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	approx 11 10 g/l aq.solutio
Melting Point/Range	360 °C / 680 °F
Boiling Point/Range	No information available
Evaporation Rate	Not applicable
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	3.02 % vol.
Vapor Pressure	Negligible
Vapor Density	Not applicable
Density	1.074
Solubility	Reacts violently with water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	220 °C / 428 °F
Decomposition Temp	400 °C
Viscosity	Not applicable
Molecular Formula	H4 B Na
Molecular Weight	37.83
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

Yes

10.2 Chemical stability

Water reactive. Hygroscopic.

10.3 Possibility of hazardous reactions

Contact with water liberates extremely flammable gases.

10.4 Conditions to avoid

Incompatible products. Excess heat. Exposure to moist air or water. Exposure to moisture. Temperatures above 60C

10.5 Incompatible materials

Strong oxidizing agents, Aldehydes, Ketones, Acids, Aluminum

10.6 Hazardous decomposition products

Oxides of boron, Hydrogen, Thermal decomposition can lead to release of irritating gases and vapors, Sodium oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium borohydride	57 mg/kg	>2000 mg/kg	LC50 > 5.18 mg/L - 1h

Skin corrosion/irritation

Causes burns by all exposure routes

Serious eye damage/eye irritation

Causes burns by all exposure routes

Respiratory or skin sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Sodium borohydride	16940-66-2	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

None known

Specific target organ toxicity - repeated exposure

Lungs

Reproductive toxicity

No information available

Chronic effects

Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated.

11.2 Additional Information

No information available

SECTION 12: Ecological information

12.1 Toxicity

Do not empty into drains. Reacts with water so no ecotoxicity data for the substance is available

12.2 Persistence and degradability

Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

Is not likely mobile in the environment.

12.5 Results of PBT and vPvB assessment

No information available

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

Un-no.	UN1426
Proper Shipping Name	SODIUM BOROXYDRIDE
Hazard Class	4.3
Packing Group	I

IMDG

Un-no.	UN1426
Proper Shipping Name	SODIUM BOROXYDRIDE
Hazard Class	4.3
Packing Group	I

IATA

Un-no.	UN1426
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Proper Shipping Name SODIUM BOROXYDRIDE
Hazard Class 4.3
Packing Group I

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable

CERCLA Hazardous Substance List (40 CFR 302.4)

Not applicable

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See section 2 for more information

SARA 313 (TRI reporting)

Not applicable

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.