

Material Safety Data Sheet

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Sodium borohydride

Product Number : 452882

Brand : Aldrich

Company : Sigma-Aldrich Canada, Ltd
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2. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification

B6 Reactive Flammable Material

D1B

E

Water Reactive
Toxic by ingestion
Toxic by skin absorption
Corrosive

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 + H311 Toxic if swallowed or in contact with skin.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

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.

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

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 or doctor/physician.

P370 + P378 In case of fire: Use .? for extinction.

HMIS Classification

Health hazard: 3

Flammability: 3

Physical hazards: 2

Potential Health Effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin Toxic if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Ingestion Toxic if swallowed. Causes burns.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : NaBH₄
Molecular Weight : 37.83 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Sodium borohydride			
16940-66-2	241-004-4	-	-

4. 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

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

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Carbon dioxide (CO₂) Dry powder

Extinguishing media which shall not be used for safety reasons

Water

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

Environmental precautions

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

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Do not flush with water. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Never allow product to get in contact with water during storage.

Air and moisture sensitive. Store under inert gas. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

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).

Hand protection

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	powder
Colour	white

Safety data

pH	no data available
Melting point	ca.400 °C (752 °F)
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	3.02 %(V)
Water solubility	55 g/l at 25 °C (77 °F) - soluble

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks. Exposure to moisture.

Materials to avoid

Oxidizing agents, Chemically active metals, acids, Reacts violently with water.

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 162 mg/kg

LD50 Dermal - rabbit - 230 mg/kg

Skin corrosion/irritation

Skin - Human - Corrosive

Serious eye damage/eye irritation

Eyes - Human - Corrosive to eyes

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion	Toxic if swallowed. Causes burns.
Skin	Toxic if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.

Signs and Symptoms of Exposure

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.

Additional Information

RTECS: ED3325000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish mortality LC50 - Gambusia affinis (Mosquito fish) - 5,600 mg/l - 96 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 1426 Class: 4.3 Packing group: I
Proper shipping name: Sodium borohydride
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 1426 Class: 4.3 Packing group: I EMS-No: F-G, S-O
Proper shipping name: SODIUM BOROHYDRIDE
Marine pollutant: No

IATA

UN-Number: 1426 Class: 4.3 Packing group: I
Proper shipping name: Sodium borohydride
IATA Passenger: Not permitted for transport

15. REGULATORY INFORMATION**DSL Status**

All components of this product are on the Canadian DSL list.

WHMIS Classification

B6 Reactive Flammable Material
D1B
E

Water Reactive
Toxic by ingestion
Toxic by skin absorption
Corrosive

16. OTHER INFORMATION**Further information**

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