

MSDS – Potassium Borohydride

MATERIAL SAFETY DATA SHEET (MSDS) / SAFETY DATA SHEET (SDS)

1. Identification

Product Name: Potassium Borohydride

Synonyms: KBH_4

Recommended Use: Laboratory reagent, reducing agent

Restrictions on Use: Not for consumer use

Manufacturer/Supplier:

(To be completed by organization)

Emergency Phone Number:

(To be completed by organization)

2. Hazard(s) Identification

GHS Classification:

Water-reactive substances – Category 1

Acute toxicity (oral) – Category 4

Skin corrosion/irritation – Category 2

Serious eye damage – Category 1

GHS Label Elements:

Signal Word: Danger

Hazard Statements:

Reacts violently with water, releasing flammable gases

Harmful if swallowed

Causes skin irritation

Causes serious eye damage

Contact with acids liberates toxic and flammable gases (hydrogen)

Precautionary Statements:

Keep away from water and moisture

Wear protective gloves, clothing, eye and face protection

Do not breathe dust

Wash thoroughly after handling

3. Composition / Information on Ingredients

Component	CAS Number	Concentration
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Potassium borohydride	13762-51-1	≥ 98%
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4. First-Aid Measures

Inhalation:

Move to fresh air immediately. Seek medical attention if symptoms persist.

Skin Contact:

Remove contaminated clothing. Rinse skin with plenty of water for at least 15 minutes. Seek medical attention.

Eye Contact:

Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present. Immediate medical attention required.

Ingestion:

Do NOT induce vomiting. Rinse mouth. Seek immediate medical attention.

Most Important Symptoms:

Burning sensation, irritation, redness, respiratory distress.

5. Fire-Fighting Measures

Suitable Extinguishing Media:

Dry chemical powder, Class D fire extinguisher, sand.

Unsuitable Extinguishing Media:

Water, foam, CO₂

Specific Hazards:

Reacts violently with water, producing flammable hydrogen gas.

Protective Equipment:

Self-contained breathing apparatus and full protective gear.

6. Accidental Release Measures

Personal Precautions:

Evacuate area. Avoid moisture. Wear appropriate PPE.

Environmental Precautions:

Prevent entry into drains or waterways.

Cleanup Methods:

Sweep up dry material carefully under inert atmosphere if possible. Dispose according to regulations.

7. Handling and Storage

Handling:

Handle under dry, inert conditions

Avoid contact with water, acids, and oxidizers

Storage:

Store in tightly sealed container

Keep in cool, dry, well-ventilated area

Protect from moisture

8. Exposure Controls / Personal Protection

Exposure Limits:

No established occupational exposure limits.

Engineering Controls:

Local exhaust ventilation.

Personal Protective Equipment:

Gloves (chemical-resistant)

Safety goggles or face shield

Lab coat or protective clothing

Respiratory protection if dust is generated

9. Physical and Chemical Properties

Appearance: White crystalline powder

Odour: Odourless

Melting Point: ~585 °C (decomposes)

Solubility: Reacts with water

pH: Not applicable

Flammability: Non-flammable solid; releases flammable gas with water

10. Stability and Reactivity

Reactivity:

Highly reactive with water and acids.

Chemical Stability:

Stable under dry conditions.

Incompatible Materials:

Water, acids, oxidizers, moisture.

Hazardous Decomposition Products:

Hydrogen gas, boron oxides.

11. Toxicological Information**Acute Toxicity:**

Harmful if swallowed

Skin/Eye Effects:

Causes irritation and serious eye damage

Chronic Effects:

No data available.

12. Ecological Information**Eco toxicity:**

Data not available.

Persistence and Degradability:

Not determined.

Bio accumulative Potential:

Not determined.

13. Disposal Considerations

Dispose of in accordance with local, regional, and national regulations. Do not allow contact with water during disposal.

14. Transport Information

UN Number: UN 1870

Proper Shipping Name: Potassium borohydride

Hazard Class: 4.3 (Dangerous When Wet)

Packing Group: I

15. Regulatory Information

May be subject to OSHA Hazard Communication Standard, REACH, and other regional chemical safety regulations.

16. Other Information

Revision Date: (18 August 2025)