Potassium borohydride: sc-250747

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Potassium borohydride
Product Number: sc-250747

Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, CA 95060
800.457.3801 or 831.457.3800
Emergency: ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255 (1-800-CHEMCALL) or call +613 9573 3112

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
Water reactive, target organ effect, toxic by ingestion, toxic by skin absorption, corrosive
Target Organs
Lungs, nerves.
GHS Classification
Substances, which in contact with water, emit flammable gases (Category 1)
Acute toxicity, Oral (Category 3)
Acute toxicity, Dermal (Category 3)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)
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)

P422	Store contents under inert gas.
P310	Immediately call a POISON CENTER or doctor/ physician.
P231 + P232	Handle under inert gas. Protect from moisture.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

HMIS Classification

Health hazard :	3
Chronic Health Hazard :	*
Flammability :	4
Physical hazards :	2

NFPA Rating

Health hazard :	3
Fire :	4
Reactivity Hazard :	2
Special hazard. :	~~W~~

Potential Health Effects

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Potassium tetrahydroborate
Formula : KBH4
Molecular Weight : 53.94

CAS-No.	*EC-No.*	*Index-No.*	*Concentration*
Potassium borohydride			
13762-51-1	237-360-5	-	-

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
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
May burn in presence of air, or emit a flammable gas in the presence of water or water vapor. Keep away from heat/sparks/open flame/hot surface/air/water. No smoking.
Suitable extinguishing media
Dry powder
Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.
Hazardous combustion products
Hazardous decomposition products formed under fire conditions - nature of decomposition products not known.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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
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.

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. Store under inert gas. Keep in a dry place. Store at room temperature.

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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin and body protection
Complete suit protecting against chemicals, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hygiene measures
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	powder	pH	N/A
Melting point	500 °C	Boiling point	N/A
Flash point	N/A	Ignition temperature	N/A
Autoignition temperature	N/A	Lower explosion limit	N/A
Upper explosion limit	N/A	Vapor pressure	N/A
Density	1.18 g/mL at 25 °C	Water solubility	N/A
Relative vapor density	N/A	Odor	N/A
Odor Threshold	N/A	Evaporation rate	N/A

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
Reacts violently with water.
Conditions to avoid
Exposure to moisture.

Materials to avoid
Strong oxidizing agents, acids, alcohols, strong bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions - nature of decomposition products not known.
Other decomposition products
no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 167 mg/kg
Remarks: Peripheral nerve and sensation: Spastic paralysis with or without sensory change. Sense organs and special senses (nose, eye, ear, and taste): eye - other; lungs, thorax, or respiration - dyspnea.

Inhalation LC50
LC50 Inhalation - rat - 46 mg/l
Remarks: Peripheral nerve and sensation: Spastic paralysis with or without sensory change. Sense organs and special senses (nose, eye, ear, and taste): eye - other; lungs, thorax, or respiration - dyspnea.

Dermal LD50
LD50 Dermal - rabbit - 230 mg/kg
Remarks: Peripheral nerve and sensation: Spastic paralysis with or without sensory change. Sense organs and special senses (nose, eye, ear, and taste): eye - other; lungs, thorax, or respiration - dyspnea.

Other information on acute toxicity
LD50 Subcutaneous - rat - 184 mg/kg
Remarks: Peripheral nerve and sensation: Spastic paralysis with or without sensory change. Behavioral: Somnolence (general depressed activity). Lungs, thorax, or respiration: Dyspnea.
Skin corrosion/irritation
no data available
Serious eye damage/eye irritation
no data available
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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity
no data available
Teratogenicity
no data available
Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available
Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available
Aspiration hazard
no data available

Potential health effects

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

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may provoke the following symptoms:, spasm, inflammation and edema of the bronchi, spasm, inflammation and edema of the larynx, pulmonary edema, Aspiration or inhalation may cause chemical pneumonitis., Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

no data available

Additional Information

RTECS: TS7525000

12. ECOLOGICAL INFORMATION

Toxicity
no data available

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

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. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 1870 Class: 4.3 Packing group: I
Proper shipping name: Potassium borohydride
Reportable Quantity (RQ): 1000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 1870 Class: 4.3 Packing group: I EMS-No: F-G, S-O
Proper shipping name: Potassium borohydride
Marine pollutant: No

IATA

UN number: 1870 Class: 4.3 Packing group: I
Proper shipping name: Potassium borohydride
IATA Passenger: Not permitted for transport

15. REGULATORY INFORMATION

OSHA Hazards

Water reactive, target organ Effect, toxic by ingestion, toxic by skin absorption, corrosive

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Reactivity hazard, acute health hazard, chronic health hazard
Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components
Potassium borohydride CAS-No. 13762-51-1
Sodium 7440-23-5

New Jersey Right To Know Components
Potassium borohydride

CAS-No. 13762-51-1

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

12/05/2012