

Material Safety Data Sheet

Potassium borohydride, 98%

ACC# 97351

Section 1 - Chemical Product and Company Identification

MSDS Name: Potassium borohydride, 98%

Catalog Numbers: AC196550000, AC196551000, AC196555000, AC418180000, AC418181000

Synonyms: Borate(1-), tetrahydro-, potassium; Potassium borohydrate; Potassium tetrahydroborate; Potassium tetrahydroborate(1-).

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
13762-51-1	Potassium borohydride	98	237-360-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystalline powder.

Danger! Water, acid, or high temperatures can liberate flammable hydrogen gas. Water-reactive. Reacts violently and/or explosively with water, steam or moisture. Causes eye and skin burns. Causes digestive and respiratory tract burns. May ignite or explode on contact with moist air. Harmful if swallowed or absorbed through the skin.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns.

Skin: Harmful if absorbed through the skin. Causes skin burns.

Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns.

Inhalation: Causes chemical burns to the respiratory tract.

Chronic: Effects may be delayed.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Wash clothing before reuse. Destroy contaminated shoes. If water-reactive products are embedded in the skin, no water should be applied. The embedded products should be covered with a light oil.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Reacts with water to form explosive hydrogen gas. May ignite or explode on contact with steam or moist air.

Extinguishing Media: Do NOT use carbon dioxide. Use approved class D extinguishing agents or smother with dry sand, clay, or sodium bicarbonate. DO NOT USE WATER! Contact professional fire-fighters immediately.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 1; Instability: 2; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing

precautions in the Protective Equipment section. Use a spark-proof tool. Provide ventilation. Do not expose spill to water. Remove ignition sources since flammable hydrogen gas may be generated by reaction with water.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not allow water to get into the container because of violent reaction. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale. Discard contaminated shoes. Keep from contact with moist air and steam.

Storage: Keep away from sources of ignition. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Water free area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Potassium borohydride	none listed	none listed	none listed

OSHA Vacated PELs: Potassium borohydride: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder

Appearance: white

Odor: none reported

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 500 deg C (dec)

Decomposition Temperature: 500 deg C

Solubility: Reacts.

Specific Gravity/Density: 1.1100g/cm3

Molecular Formula: H4BK

Molecular Weight: 53.93

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Combines vigorously or explosively with water. Water contact produces hydrogen gas.

Conditions to Avoid: Ignition sources, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials: Strong oxidizing agents, acids, strong bases, water.

Hazardous Decomposition Products: Oxides of boron, borane, hydrogen gas, oxides of potassium.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 13762-51-1: TS7525000

LD50/LC50:

CAS# 13762-51-1:

Inhalation, rat: LC50 = 46 mg/m3;

Oral, mouse: LD50 = 55 mg/kg;

Oral, rabbit: LD50 = 60 mg/kg;

Oral, rat: LD50 = 167 mg/kg;

Skin, rabbit: LD50 = 230 mg/kg;

Carcinogenicity:

CAS# 13762-51-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	POTASSIUM BOROHYDRIDE	POTASSIUM BOROHYDRIDE
Hazard Class:	4.3	4.3
UN Number:	UN1870	UN1870
Packing Group:	I	I

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 13762-51-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 13762-51-1: immediate, fire, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 13762-51-1 can be found on the following state right to know lists: New Jersey.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T F

Risk Phrases:

R 15 Contact with water liberates extremely flammable gases.

R 34 Causes burns.

R 24/25 Toxic in contact with skin and if swallowed.

Safety Phrases:

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice

immediately (show the label where possible).
S 7/8 Keep container tightly closed and dry.
S 28A After contact with skin, wash immediately with plenty of water

WGK (Water Danger/Protection)

CAS# 13762-51-1: No information available.

Canada - DSL/NDSL

CAS# 13762-51-1 is listed on Canada's NDSL List.

Canada - WHMIS

This product has a WHMIS classification of B6, E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #4 Date: 3/15/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.