



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 1785

Review Date: January 22, 2018

1 Identification of substance and company

Product name: **Potassium Tetraborate, Tetrahydrate**

Product code: 13019, 17887

Relevant use and restrictions on use: Research and product development

Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com

Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Emergency Overview:

Pictogram(s):



Signal word(s): Warning

Hazard statements: H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements: P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P281 Use personal protective equipment as required
P308+313 IF exposed or concerned: Get medical advice/ attention
P405 Store locked up
P501 Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified: None

GHS Classification: Reproductive toxicity - 2

HMIS ratings (scale 0-4): Health hazard: 1*
Flammability: 0
Physical hazard: 0

3 Composition/Information on ingredients

Chemical name: Potassium tetraborate, tetrahydrate

CAS number: 12045-78-2

EC number: 215-575-5

Formula: $K_2B_4O_7 \cdot 4H_2O$

Synonyms: Dipotassium tetraborate, tetrahydrate

Ingredients of known acute toxicity: Potassium Tetraborate

4 First aid measures

After inhalation: Move to fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact: Wash off with soap and plenty of water. Consult a physician.

After eye contact: Flush with plenty of water for at least 15 minutes. If irritation persists, consult a physician.

After ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Information for doctor: Show this safety data sheet to the doctor in attendance

Symptoms/effects; acute and delayed: Symptoms of overexposure may include nausea, vomiting, diarrhea, skin redness and skin peeling.

Immediate medical attention and special treatment needed: No data available

5 Fire-fighting measures

Suitable and unsuitable extinguishing agents: Water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Product is itself a flame retardant. Use extinguishing media suitable to surrounding fire conditions.

Special hazards caused by the material, its products of combustion or resulting gases: Oxides of boron and potassium

Special fire fighting procedures: Wear self-contained breathing apparatus. Always wear full fire fighting equipment / clothing in fire situation.

Unusual fire and explosion hazard: No data available

6 Accidental release measures

Person-related safety precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Measures for environmental protection: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Measures for cleaning/collecting: Sweep up and shovel without creating dust. Keep in suitable, closed containers for disposal. Ventilate and wash spill site after recovery is complete.

Additional information: See Section 7 for information on safe handling
See Section 8 for information on personal protective equipment
See Section 13 for information on disposal
See Section 15 for regulatory information

7 Handling and storage

Information for safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Information about protection against explosions and fires: No data available.

Storage requirements to be met by storerooms and containers: Keep container tightly closed in a dry and well-ventilated place.

Incompatibility (avoid contact with): Strong oxidizers.
Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas which could create an explosive hazard.

Further information about storage conditions: No further data available.

8 Exposure controls/personal protection

Ventilation requirements: Local exhaust. Chemical fume hood.

Components with exposure limits that require monitoring: OSHA: 15 mg/m3 (total dust); 5 mg/m3 (respirable)
ACGIH TLV: 10 mg/m3 (total dust); 3 mg/m3 (respirable)

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be adhered to
Keep away from foodstuffs, beverages and food
Instantly remove any soiled and impregnated garments
Wash hands during breaks and at the end of the work
Avoid contact with the eyes and skin

Personal protective equipment:

Respiratory protection: Filter-dust, fume, mist
(Use only NIOSH or CEN approved Equipment)

Hand protection: Neoprene / Natural rubber / Impervious
Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with product.

Eye protection: Safety glasses with side shields

Skin protection: Impervious protective work clothing sufficient to prevent contact.

Additional protective equipment: Emergency eyewash and safety shower.

Precautionary labeling: Do not get in eyes, on shin or on clothing
Do not breathe dust, vapor, mist, gas
Store in a cool, dry place
Protect from moisture -- product will cake.

9 Physical and chemical properties

Physical state: Crystalline

Color: Colorless to white

Odor: odorless

Odor threshold: No data available

Molecular Weight (Calculated): 305.52

pH No data available

Melting point/freezing point/range: 815 C

Boiling point/range: No data available

Sublimation temperature/start: No data available

Decomposition temperature: No data available

Flammability (solid, gas): Product is non-flammable

Flash point: Not applicable

Autoignition temperature: No data available

Danger of explosion: No data available

Flammable limits:

Lower: No data available

Upper: No data available

Evaporation Rate: No data available

Vapor pressure (mm Hg):	No data available
Vapor density:	No data available
Specific gravity:	1.95 g/cm3
Bulk density:	No data available
Solubility in/Miscibility with water:	265 g/L cold water
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available
Other information:	No additional data available

10 Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable under recommended storage conditions
Possibility of hazardous reactions:	No data available
Conditions to be avoided:	Contact with incompatibles. See section 7 for information on proper handling and storage
Materials to be avoided:	Strong oxidizers.
Dangerous reactions:	Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas which could create an explosive hazard.
Hazardous decomposition products: (thermal and other)	Oxides of boron and potassium.

11 Toxicological information

LD/LC50 values that are relevant for classification:	ori-rat LD ₅₀ : >2500 mg/kg skn-rbt LD ₅₀ : >2000 mg/kg
Irritation or corrosion of skin:	No data available.
Irritation or corrosion of eyes:	No data available.
Primary irritant or corrosive effect: on the skin: on the eye:	No data available. Mild
Sensitization:	No data available.
Potential health effects:	
Inhalation:	Irritating to mucous membranes and upper respiratory tract.
Ingestion:	No data available.
Skin:	No data available.
Eyes:	No data available.
Signs and symptoms of exposure:	Potassium tetraborate has a low acute oral and dermal toxicity. The primary route of entry will be inhalation. Mild irritation may occur to the nose and throat when dust levels are above 10 mg/m3. Symptoms of overexposure may include nausea, vomiting, diarrhea, skin redness and skin peeling. Boron affects the central nervous system. Boron poisoning causes depression of the circulation, persistent vomiting and diarrhea, followed by profound shock and coma. The temperature may become subnormal and a scarlatina form rash may cover the entire body. There is a possible risk of impaired fertility and harm to the unborn child.
Carcinogenicity:	IARC: No component of this product is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product is identified as a carcinogen or potential carcinogen by OSHA.
Additional information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

12 Ecotoxicological information

Toxicity:	
Toxicity to fish:	Rainbow trout LC ₅₀ : 88 mg(B)/L:24D Goldfish LC ₅₀ : 65 mg(B)/L:7D
Toxicity to daphnia and other aquatic invertebrates:	Daphnia magna EC ₅₀ : 242 mg(B)/L:24H
Toxicity to algae:	No data available
Persistence and degradability:	
Biodegradability:	No data available
Bioaccumulative potential:	
Bioaccumulation:	No data available
Mobility in soil:	No data available
Other adverse effects:	No data available

13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packagings recommendation:	Disposal must be made according to official regulations

14 Transport information

Land transport DOT

Proper shipping name: Chemicals Non-Hazardous
Technical name: Potassium tetraborate

Air transport ICAO-TI and IATA-DGR:

Proper shipping name: Chemicals Non-Hazardous
Technical name: Potassium tetraborate

UPS Ground / FedEx Ground

Proper shipping name: Chemicals Non-Hazardous
Technical name: Potassium tetraborate

UPS Air

Proper shipping name: Chemicals Non-Hazardous
Technical name: Potassium tetraborate

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311 / 312 hazards: Chronic Health Hazard
SARA Section 313 components: This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313
California Proposition 65 components: This product does not contain any chemicals known to the State of California to cause birth defects or any other reproductive harm.
TSCA: Product is listed on the TSCA Inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.