



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 280

Date of review: February 5, 2016

1 Identification of substance and company

Product name: **Boron amorphous fine powder**
Product code: 13438, 16599, C2387
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:



Signal word(s): Warning
Pictogram(s): Exclamation mark
Hazard statements: H302 Harmful if swallowed
Precautionary statements: P264 Wash skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P280 Wear protective gloves/eye protection/face protection
P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 Rinse mouth
P501 Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified: None
Ingredients of unknown acute toxicity: None
GHS Classification: Acute toxicity, oral - 4
HMIS ratings (scale 0-4): Health hazard: 1
Flammability: 0
Physical hazard: 0

3 Composition/Information on ingredients

Chemical name: Boron amorphous
Designation:
CAS number: 7440-42-8
EC number: 231-151-2
Formula: B
Synonyms: No data available
Ingredients of known acute toxicity: Boron amorphous

4 First aid measures

After inhalation: Move person into 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: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
After ingestion: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Consult a physician.
Information for doctor: Show this safety data sheet to the doctor in attendance
Symptoms/effects; acute and delayed: Ingestion may cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Immediate medical attention and special treatment needed: No data available

5 Fire-fighting measures

Suitable and unsuitable extinguishing agents: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Special hazards caused by the material, its products of combustion or resulting gases: Oxides of boron
Special fire fighting procedures: Wear self-contained breathing apparatus (SCBA) and fully protective fire fighting equipment/clothing
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.
Measures for environmental protection:	Do not let product enter drains
Measures for cleaning/collecting:	Sweep or scoop up and remove. Place in a suitable container for proper disposal.
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. Use with adequate ventilation.
Information about protection against explosions and fires:	Reacts explosively when ground together with lead or silver fluoride
Storage requirements to be met by storerooms and containers:	Keep container tightly closed in dry and well-ventilated place
Incompatibility (avoid contact with):	Strong acids and oxidizers, halogens
Further information about storage conditions:	No further information available

8 Exposure controls/personal protection

Ventilation requirements:	Use with adequate ventilation
Components with exposure limits that require monitoring:	Particulates no otherwise classified: ACGIH TLV: 10 mg/m3 (total dust); 5 mg/m3 (respirable dust) OSHA PEL: 15 mg/m3 (total dust); 5 mg/m3 (respirable dust)
Additional information:	No further information available
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: (Use only NIOSH or CEN approved Equipment)	Filter-dust, fume, mist respirator
Hand protection:	Impervious gloves
Eye protection:	Safety glasses with side-shields
Skin protection:	Protective work clothing
Additional protective equipment:	Sufficient to prevent contact. Emergency eyewash and safety shower.
Precautionary labeling:	Wash thoroughly after handling Do not get in eyes, on skin or on clothing Do not breathe dust, vapor, mist, or gas

9 Physical and chemical properties

Physical state:	Powder
Color:	Black or dark brown
Odor:	Odorless
Odor threshold:	No data available
Molecular Weight (Calculated):	10.811
pH	No data available
Melting point/freezing point/range:	2079 C
Boiling point/range:	2550 C (subl)
Sublimation temperature/start:	> 2550 C
Decomposition temperature:	No data available
Flammability (solid, gas):	No data available
Flash point:	No data available
Autoignition temperature:	No data available
Danger of explosion:	Reacts explosively when ground together with lead or silver fluoride
Flammable limits:	No data available
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:	2.34
Bulk density:	No data available
Solubility in/Miscibility with water:	Insoluble
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available

10 Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable
Possibility of hazardous reactions:	Powdered boron reacts spontaneously with fluorine, bromine and iodide
Conditions to be avoided:	Excessive heat

Materials to be avoided:	See section 7 for information on proper handling and storage
Dangerous reactions:	Strong acids and oxidizers, halogens
Hazardous decomposition products: (thermal and other)	Reacts explosively when ground together with lead or silver fluoride Oxides of boron

11 Toxicological information

LD/LC50 values that are relevant for classification:	oral-rat LD50: 650 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:	May cause irritation
on the eye:	May cause irritation
Sensitization:	No data available
Potential health effects:	
Inhalation:	See below
Ingestion:	See below
Skin:	See below
Eyes:	See below
Signs and symptoms of exposure:	Product may cause irritation of a mechanical nature to skin and eyes. Ingestion may cause irritation to the gastrointestinal system. May cause mild irritation to the upper respiratory system. Effects are much the same as with a nuisance dust. May cause stomach irregularities. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
Carcinogenicity:	Not listed as a carcinogen with IARC, ACGTIH, NTP or OSHA
Additional information:	No additional information available

12 Ecotoxicological information

Toxicity:	
Toxicity to fish:	Zebra fish LC ₅₀ : > 1 mg/L:96H
Toxicity to daphnia and other aquatic invertebrates:	Daphnia magna EC ₅₀ : > 1 mg/L:48H
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:	Boron amorphous

Air transport ICAO-TI and IATA-DGR:

Proper shipping name:	Chemicals Non-Hazardous
Technical name:	Boron amorphous

UPS Ground / FedEx Ground

Proper shipping name:	Chemicals Non-Hazardous
Technical name:	Boron amorphous

UPS Air

Proper shipping name:	Chemicals Non-Hazardous
Technical name:	Boron amorphous

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs:	Not subject
SARA Section 311 / 312 hazards:	Acute Health Hazard, Chronic Health Hazard
SARA Section 313 components:	Not subject
California Proposition 65 components:	Not subject

TSCA:

Material is listed on 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.