



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name AMMONIA BORANE, REAGENT
Catalog # 5372
Version # 01
Revision date 05-Sep-2008
CAS # 13774-81-7
Manufacturer information GFS Chemicals, Inc.
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2. Hazards Identification

Emergency overview Heating may cause an explosion. Irritating to eyes.
OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Routes of exposure Eye contact. Inhalation. Ingestion. Skin contact.
Eyes Contact with eyes may cause irritation.
Skin This product may be harmful if it is absorbed through the skin.
Inhalation Inhalation of dusts may cause respiratory irritation. May be harmful by inhalation.
Ingestion Health injuries are not known or expected under normal use. May be harmful if swallowed.
Potential environmental effects Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
AMMONIA BORANE, REAGENT	13774-81-7	90 - 100

4. First Aid Measures

First aid procedures
Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists get medical attention.
Skin contact Rinse skin with water/shower. Get medical attention if irritation develops or persists.
Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties Not a fire hazard. The product is not flammable. Containers may explode when heated.
Extinguishing media
Suitable extinguishing media Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Protection of firefighters

Specific hazards arising from the chemical Container may explode in heat of fire.

Protective equipment and precautions for firefighters Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

Specific methods In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions Local authorities should be advised if significant spillages cannot be contained. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unnecessary personnel away.

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods for containment Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up Sweep up or gather material and place in appropriate container for disposal. Avoid dust formation. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling Keep away from heat. Avoid contact with eyes. Use only with adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling. Keep in air-tight containers-material is hygroscopic. Handle and open container with care.

Storage Keep container tightly closed. Use care in handling/storage. Store away from strong oxidizers. Protect from moisture. To protect purity, store under dry nitrogen gas.

8. Exposure Controls / Personal Protection

Engineering controls Ensure adequate ventilation, especially in confined areas. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Personal protective equipment

Respiratory protection Respirator must be worn if exposed to dust.

Hand protection Protective gloves.

Eye / face protection Avoid contact with eyes. Wear chemical goggles.

Skin protection No special protective equipment required.

General hygiene considerations Avoid contact with eyes. Avoid contact with skin.

9. Physical & Chemical Properties

Appearance Powder.

Color White.

Odor Ammoniacal.

Odor threshold Not available.

Physical state Solid.

Form Solid.

pH Not available.

Melting point 208.4 °F (97.6 °C) (literature)

Freezing point Not available.

Boiling point Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability Not available.

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not available.

Vapor pressure Not available.

Vapor density Not available.

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Specific gravity	Not available.
Relative density	Not available.
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	172.4 °F (77.5 °C)
Molecular weight	30.8700
Molecular formula	H3BN

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions. Stable, however, may decompose if heated.
Incompatible materials	Strong oxidizing agents. Moist air.
Hazardous decomposition products	Boron oxides and hydrogen gas at elevated temperatures.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological information	The toxicological properties have not been fully investigated.
Local effects	Irritating to eyes.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Further information	No data is available on the product itself.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects.
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions	Cautiously make a 5% solution of the product in water; vent because of possible vigorous evolution of flammable hydrogen gas. Acidify the solution to pH 1 by adding 1M sulfuric acid drop wise. Acidification will cause vigorous evolution of hydrogen gas. Allow the solution to stand overnight. Dispose of the solution to an approved disposal facility. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not applicable.

14. Transport Information

DOT

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. CERCLA/SARA Hazardous Substances - Not applicable.
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CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of New and Existing Chemicals (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 2
Flammability: 0
Physical hazard: 1

NFPA ratings

Health: 2
Flammability: 0
Instability: 1

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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