SECTION 1: IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Product identifiers
   Product Name: Hexagonal Boron Nitride
   Brand: ACS Material LLC
   CAS-No.: 10043-11-5

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses: Laboratory chemicals, Manufacturing of substances

1.3 Details of the supplier of the safety data sheet
   Company: ACS MATERIAL LLC
   959 E Walnut St., Suite 100
   Pasadena, CA 91106
   USA
   Telephone: +1 (866)-227-0656
   Fax: +1 (781)-518-0284

1.4 Emergency telephone number
   Emergency Phone #: +1 (866)-227-0656

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
   Not a hazardous substance or mixture

2.2 GHS Label elements, including precautionary statements
   Not a hazardous substance or mixture.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
   Formula: HBN
   Molecular weight: 24.81 g/mol
   CAS-No.: 10043-11-5
   EC-No.: 233-136-6

   Hazardous components
<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBN</td>
<td>Other Inorganic Salts</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>
SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures
   If inhaled
   If breathed in, move person into fresh air. If not breathing, give artificial respiration.
   In case of skin contact
   Wash off with soap and plenty of water.
   In case of eye contact
   Flush eyes with water as a precaution.
   If swallowed
   Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed
   The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed
   No data available

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media
   Suitable extinguishing media
   Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
   Nitrogen oxides (NOx), Borane/boron oxides

5.3 Advice for firefighters
   Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
   No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
   Avoid dust formation. Avoid breathing vapors, mist or gas.
   For personal protection see section 8.

6.2 Environmental precautions
   No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up
   Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
   For disposal see section 13.
SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls
Appropriate engineering controls
General industrial hygiene practice.

8.3 Personal protective equipment
Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin 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.

Body Protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace location. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure
No special environmental precautions required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

1) Appearance
   Form: solid
   Colour: Colorless (99% optically transparent)

2) Odour
   Odorless

3) Odour Threshold
   No data available

4) pH
   No data available

5) Melting point/freezing point
   No data available

6) Initial boiling point and boiling range
   No data available

7) Flash point
   Not applicable

8) Evaporation rate
   No data available

9) Flammability (solid, gas)
   No data available

10) Upper/lower flammability or explosive limits
    No data available

11) Vapour pressure
    No data available

12) Vapour density

13) Relative density
    2.29 g/cm³ at 25 °C (77 °F)

14) Water solubility
    Insoluble

15) Partition coefficient: n- octanol/water
    No data available

16) Auto-ignition temperature
    No data available

17) Decomposition temperature
    No data available

18) Viscosity
    No data available

19) Explosive properties
    No data available

20) Oxidizing properties
    No data available

9.2 Other safety information
No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
10.4 **Conditions to avoid**  
Avoid moisture.

10.5 **Incompatible materials**  
Strong oxidizing agents

10.6 **Hazardous decomposition products**  
No data available  
In the event of fire: see section 5.

**SECTION 11: TOXICOLOGICAL INFORMATION**

11.1 **Information on toxicological effects**

**Acute toxicity**  
LD50 Oral - Rat - female - > 2,000 mg/kg  
LC50 Inhalation - Rat - 4 h - > 5.19 mg/l  
LD50 Dermal - Rat - > 2,000 mg/kg  
No data available

**Skin corrosion/irritation**  
No data available

**Serious eye damage/eye irritation**  
No data available

**Respiratory or skin sensitisation**  
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

**Specific target organ toxicity - single exposure**  
No data available
Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: Not available
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGICAL INFORMATION

12.1  Toxicity
Toxicity to fish static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 100 mg/l - 96 h
NOEC - Oncorhynchus mykiss (rainbow trout) - > 100 mg/l

12.2  Persistence and degradability
No data available

12.3  Bioaccumulative potential
No data available

12.4  Mobility in soil
No data available

12.5  Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6  Other adverse effects
No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1  Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods
IATA
Not dangerous goods

SECTION 15: REGULATORY INFORMATION

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

SARA 313 Components
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.

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

<table>
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New Jersey Right To Know Components

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</tbody>
</table>

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.

SECTION 16: OTHER INFORMATION

HMIS Rating

- Health hazard: 0
- Chronic Health Hazard: 0
- Flammability: 0
- Physical Hazard: 0

NFPA Rating

- Health hazard: 0
- Fire Hazard: 0
- Reactivity Hazard: 0

Disclaimer: ACS Material, LLC believes that the information in this Safety Data Sheet is accurate and represents the best and most current information available to us. ACS Material makes no representations or warranties either express or implied, regarding the suitability of the material for any purpose or the accuracy of the information contained within this document. Accordingly, ACS Material will not be responsible for damages resulting from use of or reliance upon this information.