# MATERIAL SAFETY DATA SHEET

## Section 1- PRODUCT IDENTIFICATION

<table>
<thead>
<tr>
<th>COMPOSITION</th>
<th>PRODUCT NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>B4C</td>
<td>Boron Carbide, tetraboron carbide, norbide</td>
</tr>
</tbody>
</table>

## Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

<table>
<thead>
<tr>
<th>MATERIAL OR COMPONENT</th>
<th>CAS NUMBER</th>
<th>WT%</th>
<th>OSHA PEL (Mg/M³)</th>
<th>ACGIH TLV (MG/M³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boron Carbide</td>
<td>12069-32-8</td>
<td>100</td>
<td>Not set</td>
<td>Not set</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10mg/ m³ (as B2O3)</td>
<td>15mg/m³ (as B2O3)</td>
</tr>
</tbody>
</table>

## Section 3- PHYSICAL DATA

<table>
<thead>
<tr>
<th>MATERIAL IS (AT NORMAL CONDITIONS)</th>
<th>APPERANCE AND ODOR</th>
<th>SPECIFIC GRAVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid ❑ Solid ❑ Gas ❑ Other</td>
<td>Black Crystalline powder, no odor</td>
<td>2.6gm/cc</td>
</tr>
<tr>
<td>MELTING POINT (BASE METAL)</td>
<td>2350 ° C</td>
<td></td>
</tr>
</tbody>
</table>

## Section 4- FIRE AND EXPLOSION

<table>
<thead>
<tr>
<th>Flash Point (Method Used)</th>
<th>Flammable Limits</th>
<th>LEL</th>
<th>UEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

**EXTINGUISHING MEDIA**

Dry chemical, CO², graphite

**SPECIAL FIRED FIGHTING PROCEDURES**

Wear a self-contained breathing apparatus with full protective clothing.

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

None

## Section 5- REACTIVITY DATA

<table>
<thead>
<tr>
<th>STABILITY</th>
<th>INCOMPATABILITY (MATERIALS TO AVOID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>Molten Alkalis</td>
</tr>
</tbody>
</table>

**CONDITIONS TO AVOID**

None

**HAZARDOUS DECOMPOISITION PRODUCTS**

B2O3
### Section 6 - HEALTH HAZARD GUIDE

**MAJOR EXPOSURE HAZARD**

- **Inhalation**
- **Skin**
- **Skin Absorption**
- **Eye Contact**
- **Ingestion**

**EFFECTS OF OVEREXPOSURE**

**INHALATION:** Considered a nuisance dust. May cause coughing, sneezing and wheezing. Chronic exposure may cause lung granulomas.

**DERMAL:** Mechanical irritation only.

**EYE CONTACT:** Mechanical irritation only.

**OTHER:** Boron is considered an industrial poison, and affects the central nervous system similar to lead, arsenic and manganese. Symptoms of boron poisoning include depressed circulation, persistent vomiting and diarrhea. Subnormal temperature and a scarletina form rash may occur. As B4C is insoluble and non-reactive, it should pose minimal health risks.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** None

**EMERGENCY & FIRST AID PROCEDURES**

**INGESTION:** Give victim 1-2 glasses of milk or water to induce vomiting. Seek medical attention.

**INHALATION:** Remove from exposed area to fresh air immediately. Seek medical attention.

**SKIN CONTACT:** Remove contaminated clothing; brush material off skin. Wash affected area with soap or mild detergent until no evidence of the chemical remains. Seek medical attention.

**EYE CONTACT:** Flush eyes with lukewarm water lifting up the upper and lower lids for at least fifteen minutes. Seek medical attention.

### Section 7 - SPILL OR LEAK PROCEDURES

**SPILL OR LEAK PROCEDURES**

Wear a self-contained breathing apparatus and full protective clothing. Isolate the area where the spill occurred and insure that proper ventilation is available. Vacuum up the spill using a high efficiently unit and place in a closed container for proper disposal.

**WASTE DISPOSAL METHODS**

Observe all federal, state and local regulations when storing or disposing.

### Section 8 - SPECIAL PROTECTION

**RESPIRATORY:**

Wear NIOSH-approved dust-mist-fume cartridge respirator.

**VENTILATION**

- **Local exhaust:** Maintain exposure below TLV for B2O3.
- **Mechanical ventilation is recommended.**

**EYE PROTECTION & PROTECTIVE CLOTHING**

Wear Safety glasses. Wear neoprene protective gloves. Wear protective clothing to prevent contamination of skin and clothes.

### Section 9 - SPECIAL PRECAUTIONS

Store in tightly closed containers in a cool, dry place. Wash hands and face thoroughly after handling and before eating.

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