



# Safety Data Sheet

Issue Date: 04-Feb-2009

Revision Date: 01-May-2015

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Type BG-1 All Purpose Bronze Brazing Powder Flux

### Other means of identification

**SDS #** GFM-015

### Recommended use of the chemical and restrictions on use

**Recommended Use** For use with nickel silver and low fuming bronze alloys in the high temperature braze welding of brass, bronze, copper, nickel silver, cast iron, and steel.

### Details of the supplier of the safety data sheet

#### Manufacturer Address

The Gasflux Company  
32 Hawthorne Street  
P.O. Box 1170  
Elyria, Ohio 44036 U.S.A.

#### Emergency Telephone Number

**Company Phone Number** (440) 365-1941 (8am - 4:30pm EST M-F)

**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International) 1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** White crystalline solid

**Physical State** Solid

**Odor** Odorless

### Classification

Reproductive toxicity

Category 2

### Hazards Not Otherwise Classified (HNOC)

May be harmful if swallowed  
May be harmful in contact with skin

### Signal Word

Warning

### Hazard Statements

May be harmful if inhaled  
Suspected of damaging fertility or the unborn child  
Causes serious eye irritation



### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Avoid breathing dust/fume/gas/mist/vapors/spray  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a poison center or doctor/physician if you feel unwell  
If exposed or concerned: Get medical advice/attention

SDS# GFM-015

01-May-2015

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Chemical Name</b>	<b>CAS No</b>	<b>Weight-%</b>
Boric Acid	10043-35-3	>80
Sodium Tetraborate Decahydrate	1303-96-4	<20

### **4. FIRST-AID MEASURES**

#### **First Aid Measures**

<b>General Advice</b>	If exposed or concerned: Get medical advice/attention.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation develops or persists seek medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.
<b>Inhalation</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
<b>Ingestion</b>	Induce vomiting, but only if victim is fully conscious. Get medical attention.

#### **Most important symptoms and effects**

<b>Symptoms</b>	Irritating to eyes, respiratory system & skin. Ingestion may cause weakness, abdominal pain, vomiting, and diarrhea.
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#### **Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Exposure may aggravate pre-existing respiratory or skin problems.
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### **5. FIRE-FIGHTING MEASURES**

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Not determined.

#### **Specific Hazards Arising from the Chemical**

Product is not flammable.

**Hazardous Combustion Products** Oxides of boron.

#### **Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### **6. ACCIDENTAL RELEASE MEASURES**

#### **Personal precautions, protective equipment and emergency procedures**

<b>Personal Precautions</b>	Use personal protective equipment as required.
<b>Environmental Precautions</b>	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

#### **Methods and material for containment and cleaning up**

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for Clean-Up</b>	Sweep up and shovel into suitable containers for disposal. Dilute and wash remaining with water and dispose of in accordance with federal, state, and local regulations.

### **7. HANDLING AND STORAGE**

#### **Precautions for safe handling**

<b>Advice on Safe Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Use personal protection recommended in Section 8. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.
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### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up.  
**Incompatible Materials** Elemental zirconium. Potassium acetic anhydride.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines** Use enough ventilation and local exhaust at the flame site to keep the fumes below the threshold limit value-time weighted average (TLV-TWA) for welding fumes of 5 mg/m<sup>3</sup> in the brazer's breathing zone and in the general air. Train the employee to keep his/her head out of the fumes

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Boric Acid 10043-35-3	STEL: 6 mg/m <sup>3</sup> inhalable fraction TWA: 2 mg/m <sup>3</sup> inhalable fraction	-	-
Sodium Tetraborate Decahydrate 1303-96-4	STEL: 6 mg/m <sup>3</sup> inhalable fraction TWA: 2 mg/m <sup>3</sup> inhalable fraction	(vacated) TWA: 10 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering Controls** Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** Chemical goggles or full face shield. Use appropriate shaded eye protection when brazing.

**Skin and Body Protection** Rubber gloves.

**Respiratory Protection** Use approved fume respirator or air-supplied respirator when brazing in a confined space or where local exhaust or ventilation does not keep exposure below the applicable TLV-TWA.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	White crystalline solid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	White		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	6.1 (0.1% Solution)	@ 20°C
<b>Melting Point/Freezing Point</b>	170.9 °C / 340 °F	
<b>Boiling Point/Boiling Range</b>	Not determined	
<b>Flash Point</b>	Non-Flammable Material	
<b>Evaporation Rate</b>	Not determined	
<b>Flammability (Solid, Gas)</b>	Not determined	
<b>Upper Flammability Limits</b>	Not Applicable	
<b>Lower Flammability Limit</b>	Not Applicable	
<b>Vapor Pressure</b>	Not Applicable	
<b>Vapor Density</b>	Not Applicable	
<b>Specific Gravity</b>	1.51 (approx.)	
<b>Water Solubility</b>	4.7% @ 20°C; 27.5% @100°C	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Auto-ignition Temperature</b>	Not determined	
<b>Decomposition Temperature</b>	Not determined	
<b>Kinematic Viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

## **10. STABILITY AND REACTIVITY**

<b><u>Reactivity</u></b>	Not reactive under normal conditions.
<b><u>Chemical Stability</u></b>	Stable under recommended storage conditions.
<b><u>Possibility of Hazardous Reactions</u></b>	None under normal processing.
<b><u>Hazardous Polymerization</u></b>	Hazardous polymerization does not occur.
<b><u>Conditions to Avoid</u></b>	Keep separated from incompatible substances. Keep out of reach of children.
<b><u>Incompatible Materials</u></b>	Elemental zirconium. Potassium acetic anhydride.

### **Hazardous Decomposition Products**

Brazing fumes and gases cannot be classified simply. The composition and quality of both are dependent upon the metal being brazed, the process, procedures, and filler metals being used. Other conditions which also influence the composition and quality of the fumes and gases to which workers may be exposed include: coatings on the metal being brazed (such as paint, plating, or galvanizing), the number of operators and the volume of the work area, the type of brazing alloy being used, the quality and amount of ventilation, the position of the operator's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). When the flux and filler metal are consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients in Section 3. Fume and gas decomposition products from the brazing alloy and base metal, not just the ingredients of the flux are important. The concentration of a given fume or gas component may decrease many times the original concentration during brazing. Also, new compounds may form. Decomposition products of normal operation include those originating from the volatilization reaction, or oxidation of the wire or rods and flux plus those from the base metal and coating. Reasonably expected by-products include hazardous and corrosive fumes containing oxides of boron (TWA 10mg/m<sup>3</sup>).

## **11. TOXICOLOGICAL INFORMATION**

### **Information on likely routes of exposure**

#### **Product Information**

<b>Eye Contact</b>	Avoid contact with eyes.
<b>Skin Contact</b>	May be harmful in contact with skin.
<b>Inhalation</b>	Harmful if inhaled.
<b>Ingestion</b>	May be harmful if swallowed.

### **Component Information**

<b>Chemical Name</b>	<b>Oral LD50</b>	<b>Dermal LD50</b>	<b>Inhalation LC50</b>
Boric Acid 10043-35-3	= 2660 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 0.16 mg/L ( Rat ) 4 h
Sodium Tetraborate Decahydrate 1303-96-4	= 2660 mg/kg ( Rat )	-	-

### **Information on physical, chemical and toxicological effects**

<b>Symptoms</b>	Please see section 4 of this SDS for symptoms.
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### **Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>Reproductive toxicity*</b>	May damage fertility or the unborn child. *A human study of occupationally exposed borate worker population showed no adverse reproductive effects. Animal studies indicate that boric acid reduces or halts sperm production, causes testicular atrophy, and when given to pregnant animals during gestation, may cause developmental changes. These feed studies were conducted under chronic exposure conditions leading to doses many times in excess of those that could occur through inhalation of dust in the occupational setting.

<b><u>Numerical measures of toxicity</u></b>	Not determined
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## **12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### **Component Information**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Boric Acid 10043-35-3		1020: 72 h Carassius auratus mg/L LC50 flow-through		115 - 153: 48 h Daphnia magna mg/L EC50

### **Persistence/Degradability**

Not determined.

### **Bioaccumulation**

Not determined.

### **Mobility**

Chemical Name	Partition Coefficient
Boric Acid 10043-35-3	-0.757

### **Other Adverse Effects**

Not determined

## **13. DISPOSAL CONSIDERATIONS**

### **Waste Treatment Methods**

#### **Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

### **California Hazardous Waste Status**

Chemical Name	California Hazardous Waste Status
Boric Acid 10043-35-3	Toxic
Sodium Tetraborate Decahydrate 1303-96-4	Toxic

## **14. TRANSPORT INFORMATION**

### **Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### **DOT**

Not regulated

### **IATA**

Not regulated

### **IMDG**

Not regulated

## **15. REGULATORY INFORMATION**

### **International Inventories**

Not determined

### **US Federal Regulations**

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SDS# GFM-015  
01-May-2015

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

<b>Chemical Name</b>	<b>New Jersey</b>	<b>Massachusetts</b>	<b>Pennsylvania</b>
Sodium Tetraborate Decahydrate 1303-96-4	X	X	X

**16. OTHER INFORMATION**

**NFPA**

**Health Hazards**

1

**Flammability**

0

**Instability**

0

**Special Hazards**

Not determined

**HMIS**

**Health Hazards**

Not determined

**Flammability**

Not determined

**Physical Hazards**

Not determined

**Personal Protection**

Not determined

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**Revision Note:** New format

**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.

**End of Safety Data Sheet**