

Section 1: Product and Company Identification

<i>Product Identifier:</i>	Type B-1 All Purpose Bronze Brazing Powder Flux
<i>Product Use:</i>	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.
<i>Item Code:</i>	4101
<i>Supplier Name:</i>	PowerWeld Inc.
<i>Supplier Address:</i>	2501 Beech Street Valparaiso, IN 46383
<i>Supplier Web Address:</i>	www.powerweldinc.com
<i>Supplier Phone:</i>	219-462-8700 1-800-826-9073
<i>Manufacturer:</i>	The Gasflux Company
<i>Manufacturer Address:</i>	32 Hawthorne Street Elyria, OH 44036
<i>Manufacturer Web Address:</i>	www.gasflux.com
<i>Manufacturer Phone:</i>	1-440-365-1941
<i>Emergency Phone:</i>	CHEMTREC (24-hour) 1-800-424-9300
<i>Prepared By:</i>	PowerWeld Inc.
<i>Preparation Date:</i>	9 September 2016

Section 2: Hazard Identification

Classification: Reproductive toxicity Category 2
Label Elements: Warning:



Hazard Phrases

- H302 Harmful if swallowed.
- H313 May be harmful in contact with skin.
- H319 Causes serious eye irritation.
- H333 May be harmful if inhaled.
- H361 May damage fertility or the unborn child.

Precautionary Phrases

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P281 Use personal protective equipment as required.
- P304+ IF INHALED:
- P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308+ If exposed or concerned:
- P313 Get medical advice/attention.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Section 3: Composition/Information on Hazardous Ingredients

HAZARDOUS INGREDIENTS	CAS NUMBER	APPROXIMATE CONCENTRATION (%)
Boric Acid	10043-35-3	> 80
Sodium Tetraborate Decahydrate	1303-96-4	< 20

Section 4: First-aid Measures

<i>Inhalation:</i>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if symptoms persist or if unconscious.
<i>Ingestion:</i>	Induce vomiting ONLY if the victim is fully conscious. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.
<i>Eye Contact:</i>	Immediately flush with plenty of clean water for at least 15 minutes. Make sure to flush under the eyelids. Consult a physician for definitive treatment.
<i>Skin Contact:</i>	Remove with soap and water. Continue flushing with water for several minutes. Use skin cream to counter resulting dryness. Consult a physician if irritation continues or if large skin area is affected.
<i>Symptoms:</i>	Irritating to eyes, respiratory system and skin. Ingestion may cause weakness, abdominal pain, vomiting and diarrhea. Exposure may aggravate pre-existing respiratory or skin problems.

NOTE: In all severe cases, contact physician immediately. Local telephone operators can provide number of regional poison control centre.

Section 5: Fire-fighting Measures

<i>Flammable:</i>	No
<i>Means of Extinction:</i>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<i>Auto-ignition Temperature:</i>	Not available
<i>Hazardous Combustion Products:</i>	Oxides of boron.
<i>Explosion Data Sensitivity to Mechanical Impact:</i>	Not available
<i>Explosion Data Sensitivity to Static Discharge:</i>	Not available
<i>Special Equipment:</i>	See below
<i>Precautions for Fire Fighters:</i>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

<i>Protective Equipment:</i>	See Section 8
<i>Emergency Procedures:</i>	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
<i>Leak or Spill Procedure:</i>	Prevent further leakage or spillage if safe to do so. 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.

Section 7: Handling and Storage

<i>Handling Procedures and Equipment:</i>	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.
<i>Storage Requirements:</i>	Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up.
<i>Incompatibilities:</i>	Elemental zirconium and potassium acetic anhydride

Section 8: Exposure Controls/Personal Protection

Exposure Limits:

HAZARDOUS INGREDIENTS	CAS NUMBER	ACGIH TLV (mg/m³)	OSHA PEL (mg/m³)
Boric Acid	10043-35-3	STEL: 6(inhale) TWA: 2(inhale)	-
Sodium Tetraborate Decahydrate	1303-96-4	STEL: 6(inhale) TWA: 2(inhale)	TWA: 5

Engineering Controls:

Use enough ventilation and local exhaust at the flame site to keep the fumes below the exposure limits listed above. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Showers and/or eyewash stations are recommended.

Personal Protective Equipment:

Eyes – Chemical goggles or full face shield. Where eye contact could occur, chemical splash proof goggles are recommended. Use appropriate shaded eye protection when brazing.

Skin - Wear impervious protective clothing, including boots, rubber gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

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 - Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes and clothing. Wash hands and face before breaks and immediately after handling the product. Avoid breathing vapours, mist or gas.

Section 9: Physical and Chemical Properties

<i>Physical State:</i>	Solid
<i>Odour and Appearance:</i>	Odourless white crystalline
<i>Odour Threshold (ppm):</i>	Not determined
<i>pH:</i>	6.1 (0.1% solution)
<i>Melting Point:</i>	170.9°C (340°F)
<i>Freezing Point:</i>	Not applicable
<i>Boiling Point:</i>	Not determined
<i>Flashpoint:</i>	Non-flammable material
<i>Upper Flammable Limit (% by volume):</i>	Not applicable
<i>Lower Flammable Limit (% by volume):</i>	Not applicable

Section 10: Stability and Reactivity

<i>Chemical Stability:</i>	Stable under recommended storage conditions.
<i>Possible Hazardous Reactions:</i>	None under normal processing.
<i>Conditions to Avoid:</i>	Keep separated from incompatible substances. Keep out of reach of children.
<i>Materials to Avoid (Incompatibilities):</i>	Elemental zirconium and potassium acetic anhydride.
<i>Conditions of Reactivity:</i>	Not reactive under normal conditions.
<i>Hazardous Decomposition By-Products:</i>	Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and welding consumables used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coating on the metal being welded (i.e. paint, painting, galvanizing), the number of welders, the volume of the work area, the quality and the amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from the cleaning and degreasing activities). When an electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 3. Fume and gas decomposition, and not the ingredients in the electrode, are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration. Also, new compounds not in the electrodes may form. Decomposition products of normal operation include those originating from the volatilization, reaction or oxidation of the materials shown in Section 3, plus those from the base metal coating, etc., as noted above. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.3 and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.
<i>Hazardous Polymerization:</i>	Not applicable

Section 11: Toxicological Information

<i>Skin Contact:</i>	May be harmful in contact with skin.
<i>Skin Absorption:</i>	Not known as a skin absorbent.
<i>Eye Contact:</i>	Avoid contact with eyes.
<i>Inhalation:</i>	Harmful if inhaled.
<i>Ingestion:</i>	May be harmful if swallowed.
<i>Effects of Acute Exposure:</i>	No additional information available.
<i>Effects of Chronic Exposure:</i>	No additional information available.
<i>Irritancy of Product:</i>	Causes serious eye irritation.
<i>Sensitization to Product:</i>	See above
<i>Carcinogenicity:</i>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<i>Reproductive Effects:</i>	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.

Respiratory Sensitization:

See above

Toxicological Data:

Boric Acid

Oral, rat - 2660 mg/kg (LD50)

Dermal, rabbit - > 2000 mg/kg (LD50)

Inhalation, rat - > 0.16 mg/L, 4hr (LC50)

Sodium Tetraborate Decahydrate

Oral, rat - 2660 mg/kg (LD50)

Section 12: Ecological Information

Aquatic and Terrestrial Toxicity:

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.

Persistence and Degradability:

Not determined

Bio accumulative Potential:

Not determined

Soil Mobility:

Boric acid: -0.757 (partition coefficient)

Section 13: Disposal Considerations

NOTE: Always dispose of waste in accordance with local, provincial and federal regulations.

Safe Handling:

See Section 7

Methods of Disposal:

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

Section 14: Transportation Information

This material is not considered as a dangerous good per transportation regulations.

Section 15: Regulatory Information

California Proposition 65:

This product does not contain any Proposition 65 chemicals.

U.S. State Right to Know:

Sodium Tetraborate Decahydrate

New Jersey, Massachusetts and Pennsylvania

Section 16: Other Information

Preparation Date:

9 September 2016

Date of Last Revision:

9 September 2016

This SDS format is in accordance with GHS. PowerWeld Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Product use and conditions of use are beyond the control of PowerWeld. Warranty of materials is limited to test results of product performance as detailed in certificates of compliance. Interpretation of test results is the responsibility of end-user. No other warranties, expressed or implied, are made.