SAFETY DATA SHEET

SILVER BRAZING FLUX PASTE

Infosafe No.: LQA81
ISSUED Date : 14/05/2020
ISSUED by: BROMIC PTY LTD

1. IDENTIFICATION

GHS Product Identifier
SILVER BRAZING FLUX PASTE

Product Code
1711879, 1711880, 1711884

Company Name
BROMIC PTY LTD (ABN 88 001 648 979)

Address
10 Phiney Place Ingleburn
NSW 2565 AUSTRALIA

Telephone/Fax Number
Tel: 02 9426 5224

Emergency phone number
02 9426 5224 (24/7)

Recommended use of the chemical and restrictions on use
Soldering flux

Disclaimer
Although the information and recommendations set forth in this SDS are presented in good faith and are believed to be correct as of the date of this SDS, Bromic Pty. Ltd., makes no representations as to the completeness or accuracy thereof. Information is supplied on the conditions that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will Bromic Pty. Ltd. or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the SDS.

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture
Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.
Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)
Acute Toxicity - Inhalation: Category 4
Acute Toxicity - Oral: Category 4
Eye Damage/Irritation: Category 1
Skin Corrosion/Irritation: Category 1B
Toxic to Reproduction: Category 1B

Signal Word (s)
DANGER

Hazard Statement (s)
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.
H360 May damage fertility or the unborn child.

Pictogram (s)
Exclamation mark,Corrosion,Health hazard

Precautionary statement – Prevention
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – Response
P308+P313 IF exposed or concerned: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.

Precautionary statement – Storage
P405 Store locked up.

Precautionary statement – Disposal
P501 Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
Boric acid	10043-35-3	20-30 %
Potassium bifluoride	7789-29-9	20-30 %
Boron potassium oxide(B4K2O7), tetrahydrate	12045-78-2	5-10 %
Potassium fluoride	7789-23-3	5-10 %
Arsenic	7440-38-2	<0.04 %
Ingredients determined not to be hazardous		Balance

4. FIRST-AID MEASURES

Inhalation
If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion
Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin
Remove all contaminated clothing immediately. Wash gently and thoroughly with water and non-abrasive soap for 15 minutes. Ensure contaminated clothing is washed before re-use or discard. Seek immediate medical attention.

Eye contact
If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical attention.

First Aid Facilities
Eyewash, safety shower and normal washroom facilities.

Advice to Doctor
Treat symptomatically.

Other Information
For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide. Dry powder. Foam.

Unsuitable Extinguishing Media
None known.

Hazards from Combustion Products
Under fire conditions this product may emit toxic and/or corrosive vapours including oxides of potassium, boron and fluorine.

Specific Hazards Arising From The Chemical
Will not burn under typical fire conditions. Not flammable.

Hazchem Code
2X

Decomposition Temperature
Not available

Precautions in connection with Fire
Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures
Evacuate all unprotected personnel. Do not allow contact with skin and eyes. Do not breathe mist/vapour. It is essential to wear self-contained breathing apparatus (S.C.B.A) and full personal protective equipment and clothing to prevent exposure. Avoid exposure to spillage by collecting the material using vacuum and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Corrosive material. Attacks skin and eyes. Causes burns. Avoid breathing in vapours, mist or fumes. Wear suitable protective clothing, gloves and eye/face protection when mixing and using. Use in designated areas with adequate ventilation. Keep containers tightly closed. Ensure a high level of personal hygiene is maintained when using this product, that is, always wash hands after handling, and before eating, drinking, smoking or using the toilet facilities. Avoid exposure. Do not handle until all safety precautions have been read and understood. It is recommended that pregnant or breastfeeding women should not handle this product unless adequate exposure protection can be assured at all times. Female personnel planning pregnancy should be made aware of the potential risks.

Conditions for safe storage, including any incompatibilities
Corrosive material. Store in a cool dry well-ventilated area. Store away from oxidising agents and bases/acids. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Provide a catch-tank in a bunded area. Store in original packages as approved by manufacturer. Ensure that storage conditions comply with applicable local and national regulations.
For information on the design of the storeroom, reference should be made to Australian Standard AS 3780 - The storage and handling of corrosive substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values
No exposure value assigned for this material. However, the available exposure limits for ingredients are listed below:
Fluorides (as F)
TWA: 2.5 mg/m³

Arsenic & soluble compounds (as As)
TWA: 0.05 mg/m³
Notice: Carcinogen 1 A

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.
Source: Safe Work Australia

Biological Limit Values
Name: Arsenic

Determinant: Inorganic arsenic plus methylated metabolites
Specimen:
Urine
Value:
35 microg As/L
Sampling time:
End of workweek

Name: Fluorides
Determinant: Fluorides
Specimen: Urine
Value: 2 mg/L
Sampling time: Prior to Shift

Determinant: Fluorides
Specimen: Urine
Value: 3 mg/L
Sampling time: End of shift

Source: American Conference of Industrial Hygienists (ACGIH)

Appropriate Engineering Controls
This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours/ mist/dust away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of vapours/mists/dust below the exposure standards, suitable respiratory protection must be worn.

Respiratory Protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/ vapour/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection
Safety glasses with full face shield should be used. Eye protection devices should conform to relevant regulations.
Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 (series) - Eye Protectors for Industrial Applications.

Hand Protection
Wear gloves of impervious material such as natural rubber, nitrile rubber, neoprene or PVC. Final choice of appropriate gloves will vary according to individual circumstances. i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.
Reference should be made to AS/NZS 2161.1 : Occupational protective gloves - Selection, use and maintenance.

Body Protection
Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

9. PHYSICAL AND CHEMICAL PROPERTIES

Properties	Description	Properties	Description
Form	Paste	**Appearance**	Paste
Colour	White	**Odour**	Odourless
Decomposition Temperature	Not available	**Melting Point**	Not available
Boiling Point	100 °C	**Solubility in Water**	Soluble
Specific Gravity	1.6-1.7	**pH**	8-10
Vapour Pressure	Not applicable	**Vapour Density (Air=1)**	Not available
Evaporation Rate	Not available	**Odour Threshold**	Not available
Viscosity	Not available	**Volatile Component**	VOC content: 0 %
Partition Coefficient: n-octanol/water	Not available	**Flash Point**	Not applicable
Flammability	Non flammable	**Auto-Ignition Temperature**	Not applicable
Explosion Limit - Upper	Not applicable	**Explosion Limit - Lower**	Not applicable

10. STABILITY AND REACTIVITY

Reactivity
Reacts with incompatible materials.

Chemical Stability
Stable under normal conditions of storage and handling.

Conditions to Avoid
Extremely high or low temperatures. Moisture.

Incompatible materials
Strong acids. Strong bases. Strong oxidizing agents. Halogens.

Hazardous Decomposition Products
Thermal decomposition may result in the release of toxic and/or corrosive vapours including oxides of potassium, boron and fluorine.

Possibility of hazardous reactions
No dangerous reactions known.

Hazardous Polymerization
Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information
Toxicity data available for this material and ingredients is given below.

Acute Toxicity - Oral
Product
LD50 (rat): 387 mg/kg
ATE (oral): 387 mg/kg bodyweight

Acute Toxicity - Inhalation

Boric acid
LC50 (rat): > 2 mg/l/4h
Potassium fluoride
LC50 (rat): 1 mg/l/4h
ATE (gases): 700 ppm/4h
ATE (vapours): 1 mg/l/4h
ATE (dust,mist): 1 mg/l/4h

Acute Toxicity - Dermal
Boric acid
LD50 (rabbit): > 2000 mg/kg
Boron potassium oxide(B4K2O7), tetrahydrate
LD50 (rabbit): > 2000 mg/kg
Potassium fluoride
ATE (dermal): 300 mg/kg bodyweight

Ingestion
Harmful if swallowed. Ingestion of this product will cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.

Inhalation
Harmful if inhaled. Inhalation will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.

Skin
Causes burns. Corrosive to the skin. Skin contact can cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction.

Eye
Causes eye damage. Eye contact will cause stinging, blurring, tearing, severe pain and possible burns, necrosis, permanent damage and blindness.

Respiratory sensitisation
Not expected to be a respiratory sensitiser.

Skin Sensitisation
Not expected to be a skin sensitiser.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Arsenic and inorganic arsenic compounds is listed as a Group 1: Carcinogenic to humans according to International Agency for Research on Cancer (IARC).
Potassium fluoride
NOAEL (chronic, oral, animal/male, 2 years): 100 mg/kg bodyweight ppm
NOAEL (chronic, oral, animal/female, 2 years): 175 mg/kg bodyweight ppm

Reproductive Toxicity
May damage fertility or the unborn child. Classified as a Known or presumed human reproductive or developmental toxicant.

STOT-single exposure
Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure
Not expected to cause toxicity to a specific target organ.

Aspiration Hazard
Not expected to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Ecological data available for ingredients is given below.

Persistence and degradability

Boric acid
Not readily biodegradable.
Boron potassium oxide(B4K2O7), tetrahydrate
Readily biodegradable.

Mobility
Soluble in water

Bioaccumulative Potential
Boric acid
BCF (fish, Oncorhynchus tschawytscha) : 134 mg/l, 90 days at 12° C
Log Pow: -0.757 at 25 °C

Other Adverse Effects
Not available

Environmental Protection
Prevent this material entering waterways, drains and sewers.

Acute Toxicity - Fish
Boric acid
LC50 (Carassius auratus): 1.02 g/l/3 days
Boron potassium oxide(B4K2O7), tetrahydrate
LC50 (fish): 188 mg/l/96h
Potassium bifluoride
LC50 (fish): 151 (51 –340) mg/l/96h
Potassium fluoride
LC50 (fish): 1299 mg/l/48h

Acute Toxicity - Other Organisms
Boric acid
EC50 (crustacea): 658 –875 mg/l/48h
Boron potassium oxide(B4K2O7), tetrahydrate
EC50 (crustacea): 242 mg/l/24h
Potassium bifluoride
EC50 (crustacea): 26 (26 –48) mg/l/96h
Potassium fluoride
EC50 (crustacea): 26 (26 –48) mg/l/96h

Other Information
Chronic
Boric acid
LOEC (Salmo gairdneri): > 97 mg/l

13. DISPOSAL CONSIDERATIONS

Disposal considerations
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

14. TRANSPORT INFORMATION

Transport Information
Road and Rail Transport (ADG Code):
This material is classified as a Class 8 Corrosive Substances Dangerous Goods
Class 8 Dangerous Goods are incompatible in a placard load with any of the following:
- Class 1: Explosives
- Division 4.3: Dangerous when wet Substances
- Division 5.1: Oxidising substances
- Division 5.2: Organic peroxides
- Class 6, Toxic or Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids

Class 7: Radioactive materials unless specifically exempted
and are incompatible with food and food packaging in any quantity.
Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II

acids and alkalis should be considered as strong.

Marine Transport (IMO/IMDG):
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.
Class/Division: 8
UN No: 1740
Proper Shipping Name: HYDROGENDIFLUORIDES, SOLID, N.O.S. (Contains potassium bifluoride)
Packing Group: II
EMS : F-A, S-B
Special Provisions: -

Air Transport (ICAO/IATA):
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.
Class/Division: 8
UN No: 1740
Proper Shipping Name: Hydrogendifluorides, solid, n.o.s. (Contains potassium bifluoride)
Packing Group: II
Packaging Instructions (passenger & cargo): 859
Packaging Instructions (cargo only): 863
Hazard Label: Corrosive
Special Provisions: A3, A803

U.N. Number
1740

UN proper shipping name
HYDROGENDIFLUORIDES, SOLID, N.O.S.(Contains potassium bifluoride)

Transport hazard class(es)
8

Packing Group
II

Hazchem Code
2X

IERG Number
37

IMDG Marine pollutant
No

Transport in Bulk
Not available

Special Precautions for User
Not available

15. REGULATORY INFORMATION

Regulatory information
Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) including Work, Health and Safety Regulations, Australia.
Classified as a Scheduled 7 Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Schedule 7 Poisons should be available only to specialised or authorised users. Special regulations restricting their availability, possession, storage or use may apply.

Poisons Schedule
S7

16. OTHER INFORMATION

Date of preparation or last revision of SDS
SDS created: May 2020

References
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
Standard for the Uniform Scheduling of Medicines and Poisons.
Australian Code for the Transport of Dangerous Goods by Road & Rail.
Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Workplace exposure standards for airborne contaminants, Safe work Australia.
American Conference of Industrial Hygienists (ACGIH).
Globally Harmonised System of Classification and Labelling of Chemicals.
Code of Practice: Managing Noise and Preventing Hearing Loss at Work.

END OF SDS