

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Trade name : HANDY FLUX TYPE B-1  
Product code : A00001124

#### 1.2. Recommended use and restrictions on use

Recommended use : Flux for alloy brazing

#### 1.3. Supplier

##### Supplier

Lucas-Milhaupt, Inc.  
5656 South Pennsylvania Ave.  
Cudahy, 53110  
USA  
T (414)-769-6000

[LM\\_SDSinfo@lucasmilhaupt.com](mailto:LM_SDSinfo@lucasmilhaupt.com) - [www.Lucasmilhaupt.com](http://www.Lucasmilhaupt.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC within the USA and Canada: 1-800-424-9300  
CHEMTREC outside the USA and Canada +1 701-741-5970

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

|   |      |   |
|---|------|---|
| Acute toxicity (oral), Category 4         | H302 | Harmful if swallowed.                     |
| Skin corrosion/irritation, Category 1A    | H314 | Causes severe skin burns and eye damage.  |
| Reproductive toxicity, Category 1B        | H360 | May damage fertility or the unborn child. |
| Full text of H-statements: see section 16 |      |   |

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H302 - Harmful if swallowed.  
H314 - Causes severe skin burns and eye damage.  
H360 - May damage fertility or the unborn child.

Precautionary statements (GHS US) :

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 hands, forearms and face thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312 - If swallowed: Call a poison center/doctor if you feel unwell  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.

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P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P310 - Immediately call a poison center/doctor  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P330 - Rinse mouth.  
P363 - Wash contaminated clothing before reuse.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name   | Product identifier  | %           |
|--|---------------------|-------------|
| Potassium fluoride (K(HF <sub>2</sub> ))     | CAS-No.: 7789-29-9  | 28 – 36.5   |
| Boric acid (H <sub>3</sub> BO <sub>3</sub> ) | CAS-No.: 10043-35-3 | 27.2 – 34.4 |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.  
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.  
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Burns.  
Symptoms/effects after eye contact : Serious damage to eyes.  
Symptoms/effects after ingestion : Burns.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

#### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

#### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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No additional information available

### Potassium fluoride (K(HF<sub>2</sub>)) (7789-29-9)

No additional information available

### Boric acid (H<sub>3</sub>BO<sub>3</sub>) (10043-35-3)

#### USA - ACGIH - Occupational Exposure Limits

|                         |  |
|-------------------------|--|
| ACGIH OEL TWA           | 2 mg/m <sup>3</sup> (inhalable particulate matter) |
| ACGIH OEL STEL          | 6 mg/m <sup>3</sup> (inhalable particulate matter) |
| ACGIH chemical category | Not Classifiable as a Human Carcinogen             |

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

#### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|  |                     |
|--|---------------------|
| Physical state                             | : Solid             |
| Colour                                     | : No data available |
| Odour                                      | : No data available |
| Odour threshold                            | : No data available |
| pH   | : No data available |
| Melting point                              | : No data available |
| Freezing point                             | : Not applicable    |
| Boiling point                              | : No data available |
| Flash point                                | : Not applicable    |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Flammability (solid, gas)                  | : Non flammable.    |
| Vapour pressure                            | : No data available |

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|   |                     |
|---|---------------------|
| Relative vapour density at 20 °C                | : No data available |
| Relative density                                | : No data available |
| Solubility                                      | : No data available |
| Partition coefficient n-octanol/water (Log Pow) | : No data available |
| Auto-ignition temperature                       | : Not applicable    |
| Decomposition temperature                       | : No data available |
| Viscosity, kinematic                            | : Not applicable    |
| Viscosity, dynamic                              | : No data available |
| Explosive limits                                | : Not applicable    |
| Explosive properties                            | : No data available |
| Oxidising properties                            | : No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|                             |                         |
|-----------------------------|-------------------------|
| Acute toxicity (oral)       | : Harmful if swallowed. |
| Acute toxicity (dermal)     | : Not classified        |
| Acute toxicity (inhalation) | : Not classified        |

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|               |                          |
|---------------|--------------------------|
| ATE US (oral) | 416.301 mg/kg bodyweight |
|---------------|--------------------------|

#### Potassium fluoride (K(HF<sub>2</sub>)) (7789-29-9)

|               |           |
|---------------|-----------|
| LD50 oral rat | 160 mg/kg |
|---------------|-----------|

#### Boric acid (H<sub>3</sub>BO<sub>3</sub>) (10043-35-3)

|                    |              |
|--------------------|--------------|
| LD50 oral rat      | 2660 mg/kg   |
| LD50 dermal rabbit | > 2000 mg/kg |

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| <b>Boric acid (H3BO3) (10043-35-3)</b> |   |
|--|---|
| LC50 Inhalation - Rat                  | > 0.16 mg/l/4h                              |
| Skin corrosion/irritation              | : Causes severe skin burns.                 |
| Serious eye damage/irritation          | : Assumed to cause serious eye damage       |
| Respiratory or skin sensitisation      | : Not classified                            |
| Germ cell mutagenicity                 | : Not classified                            |
| Carcinogenicity                        | : Not classified                            |
| Reproductive toxicity                  | : May damage fertility or the unborn child. |
| STOT-single exposure                   | : Not classified                            |
| STOT-repeated exposure                 | : Not classified                            |
| Aspiration hazard                      | : Not classified                            |
| Viscosity, kinematic                   | : Not applicable                            |
| Symptoms/effects after skin contact    | : Burns.                                    |
| Symptoms/effects after eye contact     | : Serious damage to eyes.                   |
| Symptoms/effects after ingestion       | : Burns.                                    |

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

| <b>Boric acid (H3BO3) (10043-35-3)</b> |   |
|--|---|
| EC50 - Crustacea [1]                   | 115 – 153 mg/l (Exposure time: 48 h - Species: Daphnia magna) |

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

| <b>Boric acid (H3BO3) (10043-35-3)</b>          |                   |
|---|-------------------|
| BCF - Fish [1]                                  | 0                 |
| Partition coefficient n-octanol/water (Log Pow) | -0.757 (at 25 °C) |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

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### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable  
Proper Shipping Name (TDG) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable

### 14.3. Transport hazard class(es)

**DOT**  
Transport hazard class(es) (DOT) : Not applicable

**TDG**  
Transport hazard class(es) (TDG) : Not applicable

**IMDG**  
Transport hazard class(es) (IMDG) : Not applicable

**IATA**  
Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable  
Packing group (TDG) : Not applicable  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

**DOT**  
No data available

**TDG**  
No data available

**IMDG**  
No data available

**IATA**  
No data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

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| Name   | CAS-No.    | Listing | Commercial status | Flags |
|--|------------|---------|-------------------|-------|
| Potassium fluoride (K(HF <sub>2</sub> ))     | 7789-29-9  | Present | Active            |       |
| Boric acid (H <sub>3</sub> BO <sub>3</sub> ) | 10043-35-3 | Present | Active            |       |

### 15.2. International regulations

No additional information available

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

| Component   | State or local regulations                                 |
|---|--|
| Potassium fluoride (K(HF <sub>2</sub> ))(7789-29-9) | U.S. - New Jersey - Right to Know Hazardous Substance List |

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| Full text of H-statements |   |
|---------------------------|---|
| H302                      | Harmful if swallowed.                     |
| H314                      | Causes severe skin burns and eye damage.  |
| H360                      | May damage fertility or the unborn child. |

Safety Data Sheet (SDS), USA

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