SECTION 1: Identification

1.1. Identification
Product form: Mixture
Trade name: ULTRA FLUX
Product code: A00000210

1.2. Recommended use and restrictions on use
Recommended use: Flux for metal brazing

1.3. Supplier
Lucas-Milhaupt, Inc.
5656 South Pennsylvania Ave.
Cudahy, WI 53110 - USA
T (414)-769-6000
LM_SDSinfo@lucasmilhaupt.com - 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.
Serious eye damage/eye irritation, Category 2A H319 Causes serious eye irritation.
Reproductive Toxicity, Category 2 H361 Suspected of damaging 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):

- Exclamation mark
- Eye with crossed-out symbol

Signal word (GHS-US): Warning

Hazard statements (GHS-US)
H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.
H361 - Suspected of damaging 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.
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.
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.
P330 - Rinse mouth.
P337+P313 - If eye irritation persists: Get medical advice/attention.
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

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SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures
Comments : Mixture of salts composed of potassium, borates and fluorides

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium fluoride (KHF2)</td>
<td>(CAS-No.) 7789-29-9</td>
<td>17.71</td>
</tr>
</tbody>
</table>

Comments : Note: The specific identities of the ingredients of this product are a Trade Secret. Information contained in this Safety Data Sheet accurately discloses the properties, physical and health hazards, first aid measures, and control methods for the safe use of this product. The identities of the ingredients may be determined in accordance with 29CFR 1910.1200(i) or the applicable regulations of other countries.

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. Call a physician immediately. Call a doctor.
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 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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 inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Burns.
Symptoms/effects after eye contact : Serious damage to eyes. Eye irritation.
Symptoms/effects after ingestion : Burns.

4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Unsuitable extinguishing media : Water.

5.2. Specific hazards arising from the chemical
Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

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: Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

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

7.2. Conditions for safe storage, including any incompatibilities

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Potassium fluoride (K(HF2)) (7789-29-9)
Not applicable

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
Appearance: White paste.
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
Relative vapour density at 20 °C: No data available
Relative density: Not applicable
Solubility: No data available
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
Alkai earth metals.

10.6. Hazardous decomposition products
Boron oxide, Potassium oxide, and/or flourides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Oral: Harmful if swallowed.

<table>
<thead>
<tr>
<th>ULTRA FLUX</th>
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</thead>
<tbody>
<tr>
<td>ATE US (oral)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potassium fluoride (K(HF2)) (7789-29-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>ATE US (oral)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified

Reproductive toxicity: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure): Not classified
Specific target organ toxicity (repeated exposure): Not classified

Aspiration hazard: Not classified
Symptoms/effects after inhalation: May cause respiratory irritation.
Symptoms/effects after skin contact: Burns.
Symptoms/effects after eye contact: Serious damage to eyes. Eye irritation.
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.

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

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

Department of Transportation (DOT)
In accordance with DOT
Not applicable

Transportation of Dangerous Goods
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations
Potassium fluoride (K(HF2)) (7789-29-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
Potassium fluoride (K(HF2)) (7789-29-9)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations
Potassium fluoride (K(HF2)) (7789-29-9)
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information
Full text of H-statements:

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</tr>
</tbody>
</table>

**NFPA health hazard**: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

**NFPA fire hazard**: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

**NFPA reactivity**: 0 - Material that in themselves are normally stable, even under fire conditions.

**Hazard Rating**

**Health**: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given.
* - Chronic (long-term) health effects may result from repeated overexposure

**Flammability**: 0 Minimal Hazard - Materials that will not burn

**Physical**: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

**Personal protection**: B

- Safety glasses, Gloves

**SDS US (GHS HazCom 2012)**

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Lucas-Milhaupt, Inc.