

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION



Great Lakes Orthodontics
200 Cooper Ave
Tonawanda, NY 14150

716-871-1161
800-828-7626
CHEMTREC: 800-424-9300

Product Name: Flux
Product Number: 240-002, 240-003

Effective Date: 5/18/16

SECTION 2. HAZARDOUS IDENTIFICATION

Serious Eye Damage – Eye irritation: Hazard Category 1

Skin Corrosion / Irritation: Hazard Category 1B

Acute Toxicity: Hazard Category 3

Specific Target Organ Toxicity: Hazard Category 2 (Organs: Central Nervous System (CNS), Kidney, Liver, Blood)

Label Symbols



Hazard Statements – Danger!

- May cause severe skin burns and eye damage.
- Toxic if swallowed
- May cause damage to organs through prolonged or repeated exposures.

Potential Health Effects:

Primary Routes of Entry

- Inhalation
- Ingestion
- Eye Contact
- Skin Contact

Human Effects and Symptoms of Overexposure:

- Very hazardous in case of skin contact (sensitizer), of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation.
 - Carcinogenic Effects: Not available
 - Mutagenic Effects: Not available
 - Teratogenic Effects: Not available
 - Development Toxicity: Not available

The substance is toxic to kidneys, lungs, the nervous system, liver, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Skin

May cause fluoride burns that may not be immediately painful or evident, especially on prolonged contact. This material may be absorbed through the skin resulting in systematic poisoning. Symptoms of poisoning are similar to those that occur with ingestion.

Ingestions

May cause abdominal pain, diarrhea, vomiting, excess salivation, thirst, perspiration, and painful spasms of the limbs. Large amounts may be fatal.

Eye

Causes irritation and may cause burns.

Inhalation

May cause respiratory tract and mucous membrane irritation. Symptoms include nasal discharge and nosebleeds, coughing, sore throat, and labored breathing. Severe exposure may cause bronchospasm and pulmonary edema. Absorption may cause systemic poisoning similar to that which occurs with ingestion.

Carcinogenicity

No carcinogenic substances as defined by IARC, NTP and / or OSHA.

Precautionary Statements

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.
- Do not breathe in dust or mists.
- Wash skin thoroughly after handling.
- Do not eat, drink, or smoke when using this product.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Contact a physician if you feel unwell.
- IF ON SKIN: Remove contaminated clothing immediately. Rinse skin with water and wash contaminated clothes before reuse.
 - IF IN EYES: Rinse eyes with water for a minimum of 15 minutes. Contact physician or Poison Control Center.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Hazardous Components</u>	<u>CAS #</u>	<u>%</u>
Potassium Bifluoride/ Hydrogendifluoride	7789-29-9	20 – 30
Potassium Carbonate	584-08-7	0 - 10
Boric Acid	10043-35-3	40 – 50
Potassium Fluoborate	14075-53-7	10 – 15
Boron	7440-42-8	0 - 5

* Remaining ingredients are proprietary and non-hazardous.

SECTION 4. FIRST AID MEASURES

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor / physician.

Skin Contact

Remove / take off immediately all contaminated clothing. Rinse skin with water / shower. If irritation persists, call a physician.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, perform artificial respiration. Immediately call a POISON CENTER or doctor / physician.

Ingestion

Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER or doctor / physician.

SECTION 5. FIRE FIGHTING MEASURES

Extinguishing Media

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

Special Fire Fighting Procedures

Wear self-contained breathing apparatus with full face shield operated under positive pressure. Wear chemical resistant over suit.

Unusual Fire / Explosion Hazards

May emit metallic fumes of byproducts or oxides when exposed to open flame. Cool containers / tanks with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill and Leak Procedures

Wearing full protective clothing, control spill source, contain by diking and ventilate area. Soak up spill using absorbent. Scoop into container. Notification of the National Response Center (800-424-8802) may be required. Refer to EPA, DOT and applicable state and local regulations for current response information.

SECTION 7. HANDLING & STORAGE

Handling & Storage Precautions

Store in a cool, dry location away from incompatible materials. Avoid contact with any dusts, mists or fumes resulting from the use of this product. Wash thoroughly after handling. Use with adequate ventilation. Keep container away from excessive heat.

Work / Hygienic Practices

Do not eat, drink, or smoke in work area. Use only with adequate ventilation.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Hazardous Components</u>	<u>CAS #</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Potassium Bifluoride / Hydrogendifluoride	7789-29-9	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³
Potassium Carbonate	584-08-7	No OSHA PEL(s)	No ACGIH TLV(s)
Boron	7440-42-8	No OSHA PEL(s)	No ACGIH TLV(s)
Boric Acid	10043-35-3	No OSHA PEL(s)	TWA: 2 mg/m ³ STEL: 6 mg/m ³
Potassium Fluoborate	14075-53-7	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³

Ventilation Measures

Use local exhaust ventilation as necessary to control any air contaminants to within their PELs or TLVs during the use of this product.

Respiratory Protection

If there is a potential to exceed the TLB, NIOSH/MSHA approved respiratory protection is required. For airborne levels up to 10 times the appropriate TLVs, an air purifying acid gas cartridge respirator would be suitable. If used in a manner that generates a mist, a dust/mist cartridge as well as the acid gas cartridge would be necessary. Above 10 times the TLV, an air supplied full face piece respirator would be required. If respiratory protection is used, follow all the requirements for respirator programs set forth in the OSHA regulations (29 CFR 1910.134).

Eye Protection

Wear safety glasses.

Skin and Body Protection

Rubber apron.

Germ Cell Mutagenicity

Some inorganic fluorides have been proven to induce mutagenic changes in mammalian cells under culture. No genetic effects in humans from occupational exposure have been established.

SECTION 9. PHYSICAL & CHEMICAL PROPERTIES

- **Form** – Paste
- **Color** – Black / White creamy
- **Odor** – Odorless
- **Melting Point (°C)** – 422.4
- **Solubility in Water** – 100%
- **Specific gravity (Water = 1)** – 1

Not applicable: Boiling Point, Vapor Pressure, Vapor Density, Reactivity in Water, Percent Volatile by Volume, Evaporation Rate

SECTION 10. STABILITY & REACTIVITY

Hazardous Reactions – Hazardous polymerization is not expected to occur.

Stability – Generally considered stable

Conditions to Avoid – Temperatures at or above 225 °C.

Hazardous Decomposition Products – Emits toxic and corrosive fluoride compounds. May also emit oxides of boron and potassium when heated and decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Potassium Bifluoride / Hydrogendifluoride

- CAS # - 7789-29-9
- LD50: Not data available
- LC50: No data available

Potassium Carbonate

- CAS# 584-08-7
- LD50: 1,870 mg/kg (oral – rat)
- LC50: No data available

Boron

- CAS# 7440-42-8
- LD50: 650 mg/kg (oral / rat)
- LC50: No data available

Boric Acid

- CAS# 10043-35-3
- LD50: 2,660 mg/kg (oral / rat)
- LC50: No data available

Potassium Fluoborate

- CAS# 14075-53-7
- LD50: No data available
- LC50: No data available

SECTION 12. ECOLOGICAL INFORMATION (non-mandatory)

Products of Biodegradation – Possibly hazardous after long term.

Toxicity of the Products of Biodegradation – The products of degradation are more toxic

Aquatic Toxicity to Fish and Invertebrates (Boric Acid)

- Prolonged toxicity to fish: 1,020 mg/L for 3 days
- Prolonged toxicity to fish: 1.260 mg/L for 5 days
- Prolonged toxicity to fish: 890 mg/L for 9 days
- EC50: 658-875 mg/L for 48 hours (Daphnia)

Aquatic Toxicity to Plants & Microorganisms (Boric Acid) – Depressed growth rate: 290 mg/L - algae

SECTION 13. DISPOSAL CONSIDERATIONS (non-mandatory)

Waste Disposal Method

Conform to all existing federal, state, and local regulations with regards to waste disposal.

SECTION 14. TRANSPORT INFORMATION (non-mandatory)

DOT Proper Shipping Name – 8, Corrosive material (United States)

UN Identification Number – 3266

Hazard Class – 8

Packing Group – III

Waste Disposal Method – Dispose of in accordance with EPA Regulations

SECTION 15. REGULATORY INFORMATION (non-mandatory)

TSCA

All products are listed on the TSCA Inventory

SARA 313

The products listed in this SDS Contain no components in concentrations > 1% (>0.1% for carcinogens) subject to section 313 of the Emergency Preparedness and Community Right-to-Know Act (EPCRA) of 1968 and of 40CFR, Part 372.

OSHA

Hazardous by definitions of Hazard Communication Standard (29 CFR 1910.1200)

WHMIS

The following are considered **D2A D2B** and **E** components:

1. **Boric Acid** (CASRN 10043-35-3)
2. **Fluoride Compounds, inorganic, n.o.s.**

SECTION 16. OTHER INFORMATION (non-mandatory)
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HMIS Rating:

- **Health** – 3* (serious, chronic hazard)
- **Flammability** – 0 (minimal hazard)
- **Physical Hazard** – 0 (minimal hazard)
- **PPE** – Protective wear discussed in detail in section VIII

NFPA Rating:

- **Health** – 3
- **Flammability** – 0
- **Reactivity** - 0