


I – Identification of the Substance and of the Company	
SUPPLIER: RMO, Inc. 650 W. Colfax Ave. Denver, CO 80204 303-592-8200 Emergency Information: Chemtrec 800-424-9300 Chemtrec International 202-483-7616	Trade Name and Synonyms – Tru-Chrome® Flux - Paste Description: Paste flux for flame soldering
Product Grade / Name: Orthodontic White Flux	

II – Hazards Identification	
CLASSIFICATION(S) Acute Toxicity, Oral: Hazard Category 4 Reproductive Toxicity: Hazard Category 2	
LABEL SYMBOL(S): Health Hazard, Exclamation Point	
LABEL SIGNAL WORD(S): Warning	
LABEL HAZARD STATEMENT(S): Harmful if swallowed. Suspected of damaging fertility or the unborn child.	
LABEL PRECAUTIONARY STATEMENT(S): Do not handle until all safety precautions have been read and understood. Obtain special instructions before using. Store locked up. Wear protective gloves and eye/face protection. Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product.	
If swallowed, rinse mouth. Do not induce vomiting unless so instructed by medical personnel. Call a Poison Control Center/doctor if you feel unwell.	
If exposed or concerned, get medical advice or attention. Dispose of contents/container in accordance with applicable regulations.	

III – Composition / Information on Ingredients				
Component	CAS Number	Percent	OSHA/PEL (1)	ACGIH/TLV (1)
Boric Acid	10043-35-3	15-30		2 mg/m ³
Potassium fluoride	7789-23-3	15-30	2.5 mg/m ³	2.5 mg/m ³
Potassium tetraborate	1332-77-0	15-30	2 mg/m ³	2 mg/m ³
PEL=Permissible Exposure Limit TLV=Threshold Limit Value (1) Level of pure product				

IV – First Aid Measures

EYES:

Flush affected areas with water for at least 15 minutes. Seek medical assistance if necessary.

SKIN:

Remove contaminated clothing. Wash affected area with large quantities of water for at least five minutes. Seek medical attention if necessary. Launder or dry-clean clothing before reuse.

INGESTION:

Do not induce vomiting. If the subject is conscious, give 2-4 cups of milk or water. Seek immediate medical assistance. Do not attempt to give anything by mouth to an unconscious or convulsive person.

INHALATION:

If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

NOTE TO PHYSICIAN OR POISON CONTROL CENTER:

Depending upon the dose, ingestion of the component potassium fluoride may be harmful. Its concentration in the product is <300 gm/kg. Treat fluoride intoxication symptomatically. No components are readily absorbed through the skin, although contact may cause skin irritation.

V – Fire Fighting Measures

EXTINGUISHING MEDIA: Not applicable.

FIRE AND EXPLOSION HAZARDS:

This product is non-flammable and non-explosive. If it is present in a fire or explosion, potential decomposition byproducts may include boron oxide, potassium oxide, and/or fluorides.

FIRE FIGHTING INSTRUCTIONS:

If fighting a fire in which this product is present, wear a self-contained breathing apparatus with full-facepiece operated in pressure-demand or other positive pressure mode.

VI – Accidental Release Measures

METHODS AND MATERIALS:

Isolate spilled product and transfer to impervious containers.

PERSONAL PRECAUTIONS:

Avoid contact with skin, eyes, and mucous membranes. Wear appropriate protective equipment (e.g., gloves, chemical goggles) during cleanup.

ENVIRONMENTAL PRECAUTIONS:

Prevent spills from entering sewers or contaminating soil.

IX – Physical and Chemical Properties

APPEARANCE: white pastes

ODOR: no odor

ODOR THRESHOLD: not applicable

pH: approx. 8.0

MELTING POINT: not applicable

FREEZING POINT: not applicable

BOILING POINT/BOILING RANGE: >212F./100C.

FLASH POINT: not applicable Evaporation Rate: not applicable

FLAMMABILITY CLASS: not applicable

LOWER EXPLOSIVE LIMIT: not applicable

UPPER EXPLOSIVE LIMIT: not applicable

VAPOR PRESSURE: not applicable

VAPOR DENSITY: not applicable

RELATIVE DENSITY (H₂O): approx. 1.7

SOLUBILITY (H₂O): soluble

OIL-WATER PARTITION COEFFICIENT: not applicable

AUTOIGNITION POINT: not applicable

DECOMPOSITION TEMPERATURE: not determined

VISCOSITY: not applicable

X – Stability and Reactivity

REACTIVITY: none reasonably foreseeable

STABILITY: stable Hazardous

POLYMERIZATION: will not occur

POSSIBLE HAZARDOUS REACTIONS: Some components may decompose at elevated temperatures.

INCOMPATIBLE MATERIALS:

Acetic anhydride; alkali and alkali earth metals; zirconium; platinum; bromine trifluoride.

POTENTIAL HAZARDOUS DECOMPOSITION PRODUCTS: Boron oxide, potassium oxide, and/or fluorides.

XI – Toxicological Information.

This product has not been subject to toxicological testing by the supplier/manufacturer.

INGREDIENTS - TOXICOLOGICAL DATA

BORIC ACID: LCS0: No data available
LD50: 2,660 mg/kg (oral/rat)

POTASSIUM FLUORIDE: LC50: No data available
LDS0: 245 mg/kg (oral/rat)

POTASSIUM TETRABORATE: LC50: No data available
LDS0: 2,660 mg/kg (oral/rat)

ROUTES OF ENTRY: Ingestion; inhalation

EYE HAZARDS:

This product may cause eye irritation or injury.

SKIN HAZARDS:

This product can produce irritation, particularly on abraded skin. Prolonged exposure can cause dermatitis.

INGESTION HAZARDS:

Ingestion of this product may cause one or more of the following symptoms and effects: nausea, vomiting, cramps, gastrointestinal irritation, abdominal pain, convulsions, and tachycardia. Chronic ingestion may cause fluorosis (a disease characterized by mottled teeth, osteosclerosis, and pain and loss of mobility in joints)

INHALATION HAZARDS:

Inhalation of toxicologically-significant quantities of the components is unlikely when the product is used in accordance with instructions and specified protective measures (see Section #8).

SYMPTOMS & EFFECT OF OVEREXPOSURE

Irritation to the nose, throat, and respiratory tract; cough, nose bleeds, nausea, vomiting, chest tightness, chills, fever, pneumonitis, tearing, and pulmonary edema

MEDICAL CONDITIONS POSSIBLE AGGRAVATED BY EXPOSURE: Liver and kidney damage, impaired pulmonary function, fluorosis, and/or aggravation of pre-existing diseases of the liver, kidneys, and the skeletal, nervous, and gastrointestinal systems.

CARCINOGENICITY: This product contains no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

GERM CELL MUTAGENICITY: Some inorganic fluorides have been demonstrated to induce mutagenic changes in mammalian cells in culture. No genetic effects in humans from occupational exposure to potassium fluoride have been established.

REPRODUCTIVE EFFECTS: In experimental studies, boric acid has been found to cause decreased sperm production and testicular effects in male rats, and developmental effects in fetuses of exposed female mice. No reproductive effects in humans from occupational exposure to borates have been established.

ACUTE TOXICITY ESTIMATES:

LD50 (oral): >400 mg/kg

LD50 (dermal): no data available

LC50: no data available

Interactive Effects of Components: no data available

XII – Ecological Information

No ecological data is available for the product.

Ecological data for the components is as follows:

BORIC ACID:

Prolonged toxicity to fish: 1,020 mg/liter for 3 d. (Freshwater fish)

Prolonged toxicity to fish: 1,260 mg/liter for 5 d. (Freshwater fish)

Prolonged toxicity to fish: 890 mg/liter for 9 d. (Freshwater fish)

EC50: 658-875 mg/liter for 48 hrs. (Daphnia) Depressed growth rate: 290 mg/liter (Algae) No data available for Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

POTASSIUM FLUORIDE:

Aquatic Toxicity to Fish: LC50 = 64 mg/liter for 240 h. (Trout) Aquatic

Toxicity to Fish: LC50 = 9.3 mg/liter for 96 h. (Grass Carp) Aquatic

Toxicity to Invertebrates: EC50 = 270 mg/liter (Daphnia) Aquatic

Toxicity to Plants: EC50 = 95 mg/liter for 96 h. (Algae) Aquatic

Toxicity to Microorganisms: EC50 = 101 mg/liter (Protozoa) No data available for Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

POTASSIUM TETRABORATE:

No data available for Aquatic Toxicity to Fish, Invertebrates, Plants, Microorganisms, Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

Ozone Depletion Potential: This product contains no ingredients listed in the Annexes to the Montreal Protocol on Substances that Deplete the Ozone Layer.

XIII – Disposal Considerations

Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Disposal of products containing fluorides and/or borates may be subject to restrictions. Consult applicable Federal, State/Provincial, and local regulations.

XIV – Transportation Information

Transport is not regulated by USDOT, TDG (Canada), IATA, or IMO.)

XV – Regulatory Information

United States Regulatory Information

All components of this product are listed on the EPA's TSCA inventory.

SARA Hazard Classes: Acute Health Hazard; Chronic Health Hazard

SARA Section 313 Notification: This product contains no ingredients in concentrations >1% (for carcinogens >0.1%) regulated under Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

Canadian Regulatory Information

All components of this product are listed on either the Domestic Substances List (DSL) or the Nondomestic Substances List (NDSL).

WHMIS Class(es) and Division(s): DIB, D2A, D2B Components on Ingredients Disclosure List:

1. Boric acid (CASRN 10043-35-3)
2. Fluoride compounds, inorganic, n.o.s.

This product has been classified according to the hazard criteria of the CPR and this SDS contains all of the information required by the CPR.

XVI – Other Information

HMIS Ratings (Legend)

Health - 3* (serious, chronic hazard) Flammability - 0 (minimal hazard) Physical Hazard - 0 (minimal hazard) PPE - see Note

Note: RMO recommends use of protective eyewear and gloves (Personal Protection Index "B") as standard PPE. HMIS recommends that its ratings be used only in conjunction with a fully implemented HMIS program, and that specific PPE codes be created by the user, who is familiar with the actual conditions under which the product is used. We cannot anticipate every condition of the product's use, and it is the user's responsibility to evaluate the hazards pertinent to its specific operations, and to determine the specific PPE required.

NFPA Ratings

Health - 3 Flammability - 0 Reactivity - 0

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