

Material Safety Data Sheet

IMPORTANT NOTICE: This Material Safety Data Sheet (MSDS) is issued by LA-CO Industries, Inc. (LA-CO) in accordance with the U.S. OSHA Hazard Communication Standard, Canadian WHMIS Controlled Products Regulations, British CHIP regulation 6, Australian NMRCWHS and ANSI Z400.1-1993 guidelines. The information contained herein must not be altered, deleted or added to, with the exception of adding supplier/importer information in the space provided. LA-CO has no objection to its MSDS being copied if: a) the copy is made for safety-related purposes; and b) no alterations or amendments are made to the text or format of the MSDS, with the exception of adding supplier/importer information in the space provided. LA-CO does not guaranty the accuracy of any MSDS for our products which: a) is not prepared by LA-CO; b) is not authorized by LA-CO; c) is not in the format originally supplied by LA-CO; or d) has otherwise been amended or altered by a third party, with the exception of adding supplier/importer information in the space provided. Official LA-CO MSDS's reside on its web site at www.laco.com.

Section 1 Product and Company Identification

Product Name: SILVER BRAZING FLUX PASTE

Revision #: 1.5 **Date Prepared:** March 1, 1995 **Date Revised:** August 6, 2002

Manufacturer:

LA-CO INDUSTRIES, Inc. *Markal* Co.

1201 Pratt Blvd.
Elk Grove Village, IL, USA
60007-5746

Information Telephone: 847-956-7600

Emergency Telephone: Call CHEMTREC

USA 800-424-9300

International (Call Collect) 1-703-527-3887

Chemical Formula: Mixture

CAS No.: Not Applicable. **Synonyms:** Not Applicable. **Derivation:** Not Applicable.

General Use: Flux for Brazing with Silver Solders.

Supplier/Importer:

Section 2 Composition/Information on Ingredients

<u>Ingredient</u>	<u>CAS No.</u>	<u>%</u>
Potassium Hydrogen difluoride ⁴	7789-29-9	30 - 40

(For Section 2 footnotes: See Section 15)

Section 3 Hazards Identification

EMERGENCY OVERVIEW:

WARNING: CONTAINS FLUORIDES.

PROTECT yourself and others. Read and understand this information.

FUMES AND GASES CAN BE HAZARDOUS TO YOUR HEALTH. BURNS EYES AND SKIN ON CONTACT. CAN BE FATAL IF SWALLOWED.

- Before use, read and understand manufacturer's instructions, this Material Safety Data Sheet (MSDS), and your employer's safety practices.
- Keep your head out of the fume.
- Use enough ventilation, exhaust at the work, or both, to keep fumes and gases from your breathing zone and the general area.
- Avoid contact of flux with eyes and skin.
- Do not take internally.

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- Keep children away when using.
- See American National Standard ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society, 550 N.W. LeJeune Rd., Miami, FL 33126; OSHA *Safety and Health Standards*, available from the U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954.

FIRST AID: If contact with eyes, flush immediately with water for at least 15 minutes. If swallowed, induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

ANTIDOTES: Internal - Give soluble calcium in any form: milk, lime water, calcium gluconate, or calcium lactate solution. External - Wash with water. Call physician immediately. **KEEP OUT OF REACH OF CHILDREN.**

POTENTIAL HEALTH EFFECTS:

Primary Exposure Routes: Eyes, Skin, Ingestion, Inhalation.

Acute Effects

Eyes: Contact causes irritation. May cause burns and corneal damage.

Skin: Contact may cause severe irritation, especially on abraded skin.

Ingestion: May be fatal. Symptoms may include salivation, nausea, vomiting, diarrhea and abdominal pain. Potassium ion may cause lower blood pressure; coma, death may result. The fluoride ion can reduce serum calcium levels, possibly causing fatal hypocalcemia (calcium deficiency in the blood).

Inhalation: Can be highly irritating to the nose and throat. May cause chills, labored breathing, fevers, unproductive cough. The fluoride ion may cause hypocalcemia (calcium deficiency in the blood). Inflammation and necrosis of the mucous membranes may occur.

Chronic Effects

Eyes: Not Applicable.

Skin: Prolonged contact might cause more severe burns and hypocalcemia (calcium deficiency in the blood) with risk of death.

Ingestion: May cause osseous fluorosis (increased radiographic density of the bones). May cause kidney damage, asthma and symptoms resembling rheumatism.

Inhalation: Not Determined.

Carcinogenicity: Not Applicable.

Target Organ Effects: Chronic ingestion may cause kidney damage.

Medical Conditions Aggravated by Long-Term Exposure: Not Determined.

Other Information: Not Applicable.

HMIS Rating: Health 3, Flammability 0, Reactivity 0

Section 4

First Aid

Eye Contact: Flush eyes immediately with large amounts of water for at least 15 - 20 minutes. Hold eyelids open to allow thorough flushing. Seek medical evaluation of potential corneal damage.

Skin Contact: Promptly wash with soap and water; then flush with water until all flux is removed. Remove contaminated clothing promptly and wash before reuse. If symptoms persist, get medical attention.

Ingestion: Do not induce vomiting. If conscious, give soluble calcium or magnesium in any form: milk, calcium gluconate or calcium lactate solutions, if available; or milk of magnesia; otherwise, give large quantities of water. Call physician at once. Do not give carbonates or bicarbonates.

Inhalation: Immediately remove to fresh air. If breathing is difficult, give oxygen if a qualified operator is available. Get medical evaluation. If not breathing, give artificial respiration, preferably mouth-to-mouth. Call physician and give supportive treatment for chills or fever.

Other Information: Not Applicable.

Section 5

Fire Fighting Measures

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Flash Point (method): Not Applicable.

LEL: Not Applicable. **UEL:** Not Applicable.

Autoignition Temperature: Not Applicable.

Flammability Classification: Not Applicable.

Extinguishing Media: Not Applicable.

Hazardous Combustion Products: Fire may decompose flux into skin penetrating and toxic gases. Use water spray to keep material cool.

Unusual Fire or Explosion Hazards: Not Applicable.

Fire-Fighting Instructions/Equipment: Keep personnel removed and upwind of any fire. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

NFPA Rating: Health 3, Flammability 0, Reactivity 0 CORROSIVE

Section 6 Accidental Release Measures

Use recommended personal protective equipment (see Section 8).

Small Spill: Scrape up. Wipe up spill area with a damp rag.

Large Spill: Shovel into plastic waste container. Scrape up remainder. Mop up spill area with water.

Section 7 Handling and Storage

Handling Precautions: Handle as toxic material. Use recommended personal protective equipment (see Section 8). Wash thoroughly after handling.

Storage Requirements: Store in a cool, dry area.

Section 8 Exposure Controls/Personal Protection

Eye/Face Protection: Chemical safety goggles and full face shield.

Skin Protection: Use impervious gloves. Use clean protective body-covering clothing as needed to minimize contact with clothing and skin. Change contaminated clothing. Wash after use.

Respiratory Protection: Use a NIOSH/MSHA approved air-purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use a positive pressure air supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respiratory protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.

Other Personal Protective Equipment: Eyewash and safety shower.

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control sources of dust or fumes.

Administrative Controls: Users of this product must be properly trained and qualified in its use.

Other Information: No food or beverage should be consumed in the work area. Wash thoroughly before eating, drinking, or smoking.

Section 9 Physical and Chemical Properties

Appearance/Physical State: White paste.

Odor: Not Applicable.

Odor Threshold (ppm): Not Applicable.

pH: 8 - 10

Melting Point: Not Determined.

Boiling Point: Approximately 212°F/100°C

Vapor Pressure (mm Hg at 20°C): Not Applicable.

Specific Gravity (H₂O = 1): 1.6 - 1.7

Solubility in Water: Soluble.

Coefficient of Water/Oil Solubility: >>1

Vapor Density (Air = 1): Not Applicable.

Evaporation Rate (n-BuAc=1): Not Applicable.

V.O.C.: 0%(w/w), 0%(v/v), 0 lbs./gal.(U.S.)

Section 10 Stability and Reactivity

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Chemical Stability: Stable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Not Applicable.

Chemicals to Avoid: Acids, Alkalis.

Hazardous Decomposition Products: Not Determined.

Section 11 Toxicological Information

Sensitization to Product: Not Applicable.

Irritancy of Product: Skin, Eyes, Respiratory tract.

Reproductive Toxicity: Not Applicable.

Teratogenicity: Not Applicable.

Mutagenicity: Not Applicable.

Toxicological information regarding individual ingredients, if applicable, may be found in Section 2.

Section 12 Ecological Information

Not Determined.

Section 13 Disposal Considerations

Dispose of in accordance with all applicable regulations.

The conditions of handling, storage, and use of this product are beyond our control and may be beyond our knowledge. For this and other reasons, LA-CO Industries, Inc. does not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

Section 14 Transport Information

U.S. D.O.T.:

Under 30kg/container: Consumer Commodity ORM-D.

Equal to or above 30kg/container: Potassium hydrogendifluoride solution, Class 8, UN1811, Corrosive Material, Packing Group II, ECCN IC350 Harmonize No. 3810-10-000.

Section 15 Regulatory Information

Footnotes for Section 2:

- 1 Subject to the reporting requirements of SARA Title III, Section 313.
- 2 Appears on the California Safe Drinking Water and Toxic Enforcement Act Substances List.
- 3 Appears on the Massachusetts Substances List.
- 4 Appears on the New Jersey Right-To-Know Hazardous Substances List.
- 5 Appears on the Pennsylvania Hazardous Substances List.
- 6 Appears on the Canadian WHMIS Ingredient Disclosure List.

U.S.A.

OSHA Hazard Status: This product is considered to be hazardous as defined by the U.S. OSHA HCS (29 CFR 1910.1200).

EPA SARA sec. 311/312 Hazard Categories: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard.

Toxic Substances Control Act (TSCA): All ingredients contained in this product are listed on the U.S. EPA TSCA Chemical Substance Inventory.

HMIS Rating: Health 3*, Flammability 0, Reactivity 0

NFPA Rating: Health 3, Flammability 0, Reactivity 0 CORROSIVE

BXA: Potassium bifluoride appears on the Bureau of Export Administration list of Precursors for

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Toxic Chemical Agents, classified under Export Control Classification Number 1C350. This product may not be exported without appropriate licensing.

CANADA

WHMIS Status: This product is considered to be hazardous as defined by Canadian WHMIS Controlled Products Regulations.

WHMIS Rating: None.D-1B, D-2B, E

WHMIS Risk Phrases: DANGER - HARMFUL OR FATAL IF SWALLOWED. Causes irritation to skin, eyes and mucous membranes. CAUTION - CONTAINS FLUORIDES OF ALKALI METALS. KEEP OUT OF REACH OF CHILDREN.

WHMIS Precautionary Statements: Avoid contact with skin and eyes. Avoid inhalation of fumes.

Domestic Substances List (DSL): All ingredients contained in this product are listed on the Canadian EPA (CEPA) Domestic Substances List (DSL).

E.U.

European Inventory of Existing Chemical Substances (EINECS): All ingredients contained in this product are listed on the European Inventory of Existing Chemical Substances (EINECS).

Categories of Danger (Labeling Information): Toxic (T), Corrosive (C)

Risk (R) Phrases: Toxic by inhalation and if swallowed (R23/25), Causes burns (R34), Risk of serious damage to the eyes (R41), Irritating to the respiratory system (R37), Danger of cumulative effects (R33)

Safety (S) Phrases: Keep out of reach of children (S2), Keep away from food, drink and animal feedingstuffs (S13), When using do not eat or drink (S20), Do not breath fumes (S23), Avoid contact with skin and eyes (S24/25), In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26), After contact with skin, wash immediately with plenty of water (S28), This material and its container must be disposed of in a safe way (35), Wear suitable protective clothing, gloves and eye/face protection (S36/37/39), If swallowed, in case of accident or if you feel unwell seek medical advice immediately and show this container, label or Safety Data Sheet (S45/46), Use only in well ventilated areas (51).

AUSTRALIA

Worksafe Australia Status: This product is classified as hazardous according to criteria of Worksafe Australia.

HAZCHEM Code: Not Determined.

Poisons Schedule Number: Not Determined.

Further regulatory information regarding individual ingredients, if applicable, may be found in Section 2.

This product has been classified in accordance with the hazard criteria of the U.S. OSHA Hazard Communication Standard and the Canadian WHMIS Controlled Products Regulations. This MSDS contains all the information required by the above regulations and conforms to ANSI Z400.1-1993.

Section 16

Other Information

MSDS Prepared By: Director of Chemical Safety

The information contained herein is based on data available to us and is accurate and reliable to the best of our knowledge and belief. However, LA-CO Industries, Inc. makes no representations as to its completeness or accuracy. Information is supplied on condition that persons receiving such information will make their own determination as to its suitability for their purposes prior to use. In no event will LA-CO Industries, Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon the information contained herein.