



**Chemical Name:** Stainless Steel Flux

**Manufacturer:** LA-CO Industries

**Container Size:** 16 oz.

**Location:** VLA





**Disposal:** Place empty container in trash. Give partial or full container to safety officer.

## SAFETY DATA SHEET

### Section 1: Product and Company Identification

**Product Name:** M-A Flux  
**Product Code:** 23904 (4 oz.), 23913 (qt.), 23914 (gal.)  
**Product Use:** Soldering flux for stainless steel, chrome, copper, brass, steel, lead and galvanized iron  
**Supplier:** LA-CO Industries, Inc.  
 1201 Pratt Boulevard  
 Elk Grove Village, IL.  
 60007-5746  
 E-mail Contact: customer\_service@laco.com  
**Phone Number:** (847) 956-7600  
**Fax:** (847) 956-9885  
**24-hour Emergency:** CHEMTREC: (800) 424-9300

### Section 2: Hazards Identification

Protective Equipment	GHS Classification	WHMIS (Canada)	Transport
		 E	

**2.1 Classification of the substance or mixture according to GHS Classifications (UNECE 3<sup>rd</sup> Revised Edition):**  
 Skin Corr. 1; H314

**2.2 Label elements:**



Danger

H314: Causes severe skin burns and eye damage.

Prevention

P260: Do not breathe dust or fume.

P264: Wash exposed skin thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363: Wash contaminated clothing before reuse.

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310: Immediately call a POISON CENTER or doctor/physician.

P305 + P351 +P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P405: Store locked up.

Disposal

P501: Recycle and or dispose of contents/containers to hazardous waste treatment or remove by licensed waste removal company: in accordance with local/regional/national/ international regulations.

**2.3 Other hazard classifications:**

USA: This material is considered a hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Canada: This is a controlled product under WHMIS.



E

European Communities (EC): This product is classified as dangerous according to Directive 1999/45/EC and its amendments.  
 Classifications: Corrosive.

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### Section 3: Composition / Information on Ingredients

**Hazardous/Dangerous Ingredients:**

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Wt.%</u>	<u>EINECS</u>	<u>Classification according to Regulation (EC) No 1272/2008 [CLP]</u>	<u>Classification according to 67/548/EEC, Dangerous Substances Directive</u>
Phosphoric acid	7664-38-2	40 - 65	231-633-2	Skin Corr. 1B; H314	C; R34

See Section 16 for the full text of the R-phrases above.

### Section 4: First Aid Measures

**4.1 Description of first aid measures:**

**Inhalation:** If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention immediately. If breathing is difficult, trained personnel should administer emergency oxygen. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.

**Eye Contact:** Avoid direct contact with this chemical. Wear chemical protective gloves, if necessary. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting. Take care not to rinse contaminated water into the non-affected eye or onto the face. If irritation persists repeat flushing. Quickly transport victim to an emergency care facility.

**Skin Contact:** Avoid direct contact with this chemical. Wear chemical protective gloves, if necessary. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower for at least 20-30. If irritation persists, repeat flushing. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting. Under running water, remove contaminated clothing, shoes, and leather goods (e.g., watchbands, belts). Obtain medical attention immediately or transport victim to an emergency care facility. Completely decontaminate clothing, shoes and leather goods before re-use or discard.

**Ingestion:** If swallowed, immediately call a POISON CENTER or doctor/physician. Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Quickly transport victim to an emergency care facility.

**4.2 Most important symptoms and effects, both acute and delayed:**

**Inhalation:** Inhalation of mists or fumes generated during use can be severely irritating to the nose, throat and respiratory system and can cause damage to the respiratory system. Symptoms of over-exposure include weakness, dry cough, chest pain, shortness of breath and difficulty breathing. Prolonged or severe exposure may lead to a potentially fatal accumulation of fluid in the lungs (pulmonary edema). Symptoms of pulmonary edema (chest pain and shortness of breath) can be delayed up to 24 or 48 hours after exposure.

**Eye Contact:** Causes eye burns. Can cause permanent eye damage. Mists and fumes can cause severe irritation. The degree of injury depends on duration and extent of contact with the eye.

**Skin Contact:** Causes burns with direct contact. Symptoms may include ulceration, blistering and permanent scarring. Prolonged or repeated exposure by skin contact may cause skin burns or dermatitis.

**Ingestion:** Causes burns to the mouth, throat and gastro-intestinal system if swallowed. Symptoms are expected to include severe pain, vomiting and bleeding.

**4.3 Indication of any immediate medical attention and special treatment needed:**

Get medical advice/attention if you feel unwell.

## SAFETY DATA SHEET

### Section 5: Fire Fighting Measures

<b>Flammable Properties:</b>	Not flammable
<b>Suitable extinguishing Media:</b>	Extinguish fire using appropriate extinguishing media for the surrounding fire. Use water spray to cool fire-exposed containers.
<b>Unsuitable extinguishing Media:</b>	Not available
<b>Explosion Data:</b>	
<b>Sensitivity to Mechanical Impact:</b>	Not applicable
<b>Sensitivity to Static Discharge:</b>	Not applicable
<b>Specific Hazards arising from the Chemical:</b>	If involved in a fire, thermal decomposition may produce toxic and irritating fumes and gases which may include phosphorus oxides, nitrogen oxides and ammonia. Contact with most metals generates highly flammable and explosive hydrogen gas.
<b>Protective Equipment and precautions for firefighters:</b>	Self-contained breathing apparatus and full protective clothing should be worn. Remove all unprotected personnel.
<b>NFPA</b>	
<b>Health:</b>	3
<b>Flammability:</b>	0
<b>Instability:</b>	0

### Section 6: Accidental Release Measures

<b>Personal Precautions:</b>	Wear protective gloves, goggles and clothing. Ventilate the area. Monitor the workplace air for harmful concentrations of vapors and take appropriate precautions if concentrations in air exceed workplace exposure limits.
<b>Environmental Precautions:</b>	Prevent the product from entering sewers or waterways.
<b>Methods for Containment:</b>	Stop the leak if it is safe to do so. Neutralize spilled material with water and soda ash (sodium carbonate). Contain the spill with earth, sand, or other suitable inert absorbent material. Do not absorb with combustible materials, such as sawdust. Do not flush the spill to sewers.
<b>Methods for Clean-up:</b>	Clean up spills immediately. Put material in suitable, covered, labeled chemical waste containers. Contaminated absorbent material may pose the same hazards as the spilled product. Dispose of any contaminated, unusable product as described in Section 13 of this SDS.

### Section 7: Handling and Storage

<b>Handling:</b>	This material is corrosive. Prevent the release of mists and vapors of this material into the workplace air. Keep out of reach of children. When handling this product, do not add water in the container. Water, (particularly hot water) added to the concentrated product can cause boiling and splashing.
<b>Storage:</b>	Store in the tightly closed container in a cool, dry area, out of direct sunlight and away from sources of heat and moisture. Product is corrosive to steel and may form flammable gases in contact with metals; store product in its original container. Empty containers may retain product residue, do not re-use containers for other purposes.

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### Section 8: Exposure Controls/Personal Protection

**Exposure Guidelines**

Consult local authorities for acceptable exposure limits.

<u>Ingredient</u>	<u>ACGIH TLV</u> <u>(8-hr. TWA)</u> <u>(mg/m<sup>3</sup>)</u>	<u>U.S. OSHA PEL</u> <u>(8-hr. TWA)</u> <u>(mg/m<sup>3</sup>)</u>	<u>Ontario (Canada)</u> <u>TWAEV</u> <u>(mg/m<sup>3</sup>)</u>	<u>UK OEL</u> <u>(8-hr. TWA)</u> <u>(mg/m<sup>3</sup>)</u>
Phosphoric acid	1 3 STEL	1 3 STEL	1 3 STEV	1 2 STEL

**Exposure Controls**

**Engineering Controls:** Provide adequate ventilation/local exhaust to keep exposure levels below the exposure limits listed above.

**Personal Protection:**

**Eye/Face Protection:** Wear chemical splash goggles. When respiratory protection is required, wear full-face respiratory protection.

**Skin Protection:** Wear impervious protective gloves made of rubber. Wear clean body-covering clothing to prevent skin contact. Wear an impervious apron as needed to prevent skin contact.

**Respiratory Protection:** When concentrations in air exceed the occupational exposure guidelines, wear a self-contained breathing apparatus. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

A respiratory protection program that meets regulatory requirements, such as OSHA's 29 CFR 1910.134 and ANSI Z88.2 or European Standard EN 149 or Canadian Standards Association (CSA) Standard Z94.4-02, must be followed whenever workplace conditions warrant a respirator's use.

NIOSH recommendations for phosphoric acid concentrations in air:

Up to 25 mg/m<sup>3</sup>: Supplied-air respirator (SAR) operated in a continuous flow mode.

Up to 50 mg/m<sup>3</sup>: Full-facepiece respirator with high-efficiency particulate filter(s); or full-facepiece Self-contained breathing apparatus (SCBA) or full-facepiece SAR.

Up to 1000 mg/m<sup>3</sup>: Positive pressure, full-facepiece SAR.

Emergency or planned entry into unknown concentrations or IDLH conditions: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA.

Escape: full-facepiece respirator with high-efficiency particulate filter(s); or escape-type SCBA. The IDLH concentration for phosphoric acid is 1000 mg/m<sup>3</sup>.

**General Hygiene Measures:** Prevent all skin and eye contact. Avoid breathing fumes of this material. Do not ingest. Use this material with adequate ventilation. Keep container closed when not in use. Wash thoroughly after handling this product. Do not eat, drink, smoke while handling this product. Remove contaminated clothing immediately.

Provide eyewash and safety shower stations in workplaces where this flux is handled.

### Section 9: Physical and Chemical Properties

<b>Physical State:</b>	Liquid	<b>Flash Point &amp; method:</b>	Not available
<b>Appearance, Color and Odor:</b>	Clear, odorless	<b>Autoignition Temperature:</b>	Not applicable
<b>Odor Threshold:</b>	Not applicable	<b>Flammability Limits in Air:</b>	Not applicable
<b>pH:</b>	<1.5	<b>Vapor Pressure:</b>	Not available
<b>Specific Gravity:</b>	1.53	<b>Vapor Density:</b>	Heavier than air
<b>Partition coefficient:</b>	Not available	<b>Evaporation Rate:</b>	Not available
<b>Solubility in water:</b>	Soluble	<b>Boiling Point/Range:</b>	Not available
<b>Viscosity:</b>	Not available	<b>Melting Point:</b>	Not available
<b>Decomposition Temperature:</b>	Not available	<b>VOC Content:</b>	Not available

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### Section 10: Stability and Reactivity

<b>Chemical Stability:</b>	Stable at normal room temperature.
<b>Conditions to Avoid:</b>	Do not use in conditions of extreme heat.
<b>Incompatible Materials:</b>	<p>Strong caustics (e.g. potassium hydroxide) - react violently, causing spattering and considerable release of heat.</p> <p>Strong oxidizing agents, reducing agents or organic peroxides- potentially dangerous reactions can occur.</p> <p>Azo compounds, expoxides, aldehydes and other polymerizable compounds - can cause violent polymerization.</p> <p>Metals - forms flammable and potentially explosive hydrogen gas.</p> <p>Fluorides, halogenated organics, cyanides, sulfides, mercaptans, nitrides, metal phosphides, acetylides, silicides and carbides - form toxic, corrosive and/or flammable gases such as hydrogen fluoride, hydrogen cyanide, hydrogen sulfide, ammonia, phosphine and acetylene.</p> <p>Nitromethane - addition of phosphoric acid to nitromethane makes nitromethane susceptible to initiation.</p> <p>Sodium tetrahydroborate (sodium borohydride) - reaction with anhydrous acid is very exothermic (produces a great amount of heat) and may be dangerously violent with rapid mixing.</p>
<b>Hazardous Decomposition Products:</b>	Toxic and/or irritating phosphorus oxides, nitrogen oxides and ammonia may form when heated to decomposition.
<b>Possibility of Hazardous Reactions:</b>	Very corrosive to ordinary ferrous metals and alloys, particularly when hot. Forms flammable and potentially explosive hydrogen gas which may accumulate in poorly ventilated spaces or confined space.

### Section 11: Toxicological Information

**Acute Toxicity Data** Acute toxicity data is not available for the liquid preparation.

<u>Ingredient</u>	<u>LD<sub>50</sub> Oral</u> (mg/kg)	<u>LD<sub>50</sub> Dermal</u> (mg/kg)	<u>LC<sub>50</sub> Inhalation</u> (4 hrs.)
Phosphoric acid, 85% aqueous solution	3 500 (rat)	Not available	>1 260 (rabbit)

#### Other Toxicity Data

<b>Carcinogenicity:</b>	This preparation does not contain any component that is considered a human carcinogen by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists, OSHA or NTP (National Toxicology Program).
<b>Irritation:</b>	Severely irritating or corrosive when in contact with skin and eyes. Over-exposure to mists and vapors can be severely irritating to the nose, throat and respiratory tract.
<b>Corrosivity:</b>	Causes burns to eyes and skin.
<b>Sensitization:</b>	Not applicable
<b>Neurological Effects:</b>	Not applicable
<b>Genetic Effects:</b>	Not applicable
<b>Reproductive Effects:</b>	Not applicable
<b>Developmental Effects:</b>	Not available
<b>Target Organ Effects:</b>	Eyes, skin, respiratory system.
<b>Medical Conditions Aggravated by Exposure:</b>	Preexisting respiratory and skin disorders may be aggravated by exposures to mists, fumes and liquid.

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### Section 12: Ecological Information

**Ecotoxicity:** Very low pH solutions are expected to be harmful or toxic to aquatic organisms.

**Persistence/Degradability:** Not available

**Bioaccumulation/Accumulation:** Not available

**Mobility:** Soluble in water, will disperse in aquatic systems.

### Section 13: Disposal Considerations

**Waste Disposal Method:** Do NOT dump into any sewers, on the ground or into any body of water. Store material for disposal as indicated in Section 7 Handling and Storage. The conditions of use, storage and disposal 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.

**USA:** Dispose of in accordance with local, state and federal laws and regulations.

**Canada:** Dispose of in accordance with local, provincial and federal laws and regulations.

**EC:** Waste must be disposed of in accordance with relevant EC Directives and national, regional and local environmental control regulations. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

### Section 14: Transport Information:

UN 3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid), Class 8, PG III

**U.S. Hazardous Materials Regulation (DOT 49CFR):** When packaged in quantities less than 5 L, this material can be shipped as a "Consumer Commodity ORM-D" Exemption. Shipment from US going to Canada may transport as per 49 CFR (TDG Section 9.1)

**Canadian Transportation of Dangerous Goods (TDG):** When packaged in quantities less than 5 L this material can be shipped as a "Consumer Commodity" as per part 1.17 of the TDG Regulations. Shipment from Canada to the US may transport as per TDG Regulations (49 CFR Part 171.12a)

**ADR/RID:** UN 3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid), Class 8, PG III

**IMDG:** UN 3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid), Class 8, PG III; Limited Quantity

**ICAO/IATA:** UN 3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Phosphoric acid), Class 8, PG III

### Section 15: Regulatory Information

USA

**TSCA Status:** All component substances are listed on the TSCA inventory.

**SARA Title III**

Sec. 302/304: None  
 Sec. 311/312: Acute health; Corrosive  
 Sec. 313: Phosphoric acid  
 CERCLA RQ: Phosphoric acid 5 000 lbs (2 270 kg) RQ

**California Prop 65:** Not applicable

**State Right-to-Know Lists :** Phosphoric acid is listed by Massachusetts, New Jersey, Pennsylvania

## SAFETY DATA SHEET

### Section 15: Regulatory Information, continued

**Canada**

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.

**WHMIS Classification:** E - Corrosive  
(for workplace exposures)

**New Substance Notification Regulations:** All component substances are listed on Canada's Domestic Substances List (DSL).

**NPRI Substances:** Phosphates

**EC Classification for the Substance/Preparation**

**European Inventories:** All component substances are listed in EINECS.

**Symbol:**



Corrosive

**Risk Phrases:** R34: Causes burns.  
**Safety Phrases:** S1/2: Keep locked up and out of the reach of children.  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.  
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### Section 16: Other Information

**Full Text of R-phrases appearing in Section 2:** H314: Causes severe skin burns and eye damage.  
R34: Causes burns.

**Preparation Information:**

**Revision Date:** May 14, 2012

**Supplier Disclaimer:** 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.

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