

**Section 1. Identification****Product identifier****Product Identity**

Liquid Soldering Flux

**Other means of identification**

83399

**Relevant identified uses of the substance or mixture and uses advised against**

See Technical Data Sheet.

**Details of the supplier of the safety data sheet****Company Name**Kimball Midwest  
4800 Roberts Road  
Columbus Ohio  
43228  
Phone: 800-233-1294**Emergency**

Chemtrec 800-424-9300

**24 hour Emergency Telephone No.****Section 2. Hazard(s) identification****Classification of the substance or mixture under OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)**Skin corrosion/irritation category  
1B;H314

Causes severe skin burns and eye damage.

Serious eye damage / eye irritation,  
category 1;H318

Causes serious eye damage.

Skin sensitizer category 1;H317

May cause an allergic skin reaction.

Reproductive toxicity, category  
1B;H360FD

May damage fertility. May damage the unborn child.

Specific target organ toxicity, Single  
exposure category 3;H335

May cause respiratory irritation.

Aquatic toxicity (acute), category  
2;H401

Toxic to aquatic life.

Aquatic toxicity (chronic), category  
2;H411

Toxic to aquatic life with long lasting effects.

## Label elements



### Danger

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H360FD\* May damage fertility. May damage the unborn child.

H411 Toxic to aquatic life with long lasting effects.

### [Prevention]

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P233 Keep container tightly closed.

P260 Do not breathe dust, fume, mist, vapors or spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves, protective clothing, eye protection, face protection.

### [Response]

P302+352 IF ON SKIN: Wash with plenty of soap and water.

P303+361+353 IF ON SKIN (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower.

P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+313 IF exposed or concerned: Get medical advice or attention.

P310 Immediately call a POISON CENTER, doctor or physician.

P312 Call a POISON CENTER, doctor or physician if you feel unwell.

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P333+313 If skin irritation or a rash occurs: Get medical advice or attention.

P362+364 Take off contaminated clothing and wash it before reuse.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

**[Storage]**

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

**[Disposal]**

P501 Dispose of contents or container in accordance with local and national regulations.

**Other hazards**

This product contains no PBT/vPvB/vPvM chemicals.

This product contains no endocrine disrupting chemicals.

Does not contain component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS) per US or Canadian regulations.

<b>Section 3. Composition/information on ingredients</b>
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This product contains the following substances that present a hazard within the meaning of the OSHA's Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7).

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Triethanolamine, TEA(99%) CAS Number: 102-71-6 Synonyms: No available information	10 - 30	Not Classified	No data available
2-(2-Aminoethylamino)ethanol (AEEA) CAS Number: 111-41-1 Synonyms: Aminoethylethanolamine	10 - 30	Reproductive toxicity, category 1B;H360Fd Skin corrosion/irritation category 1B;H314 Skin sensitizer category 1;H317 Specific target organ toxicity, Single exposure category 3;H335 > 5%	No data available
Tetrahydro-2-furylmethanol CAS Number: 97-99-4 Synonyms: tetrahydrofurfuryl alcohol	10 - 30	Serious eye damage / eye irritation, category 2;H319	No data available
Ammonium fluoborate CAS Number: 13826-83-0 Synonyms: No available information	10 - 30	Metal corrosion;H290 Skin corrosion/irritation category 1B;H314	No data available
Zinc oxide CAS Number: 1314-13-2 Synonyms: No available information	7 - 13	Aquatic toxicity (acute), category 1;H400 Aquatic toxicity (chronic), category 1;H410	No data available

The actual concentration or concentration range is withheld as a trade secret.

\*PBT/vPvB - PBT, vPvM or vPvB-substance.

The full texts of the phrases are shown in Section 16.

## Section 4. First aid measures

### Description of first aid measures

<b>General</b>	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
<b>Eyes</b>	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
<b>Skin</b>	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
<b>Ingestion</b>	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

### Most important symptoms and effects, both acute and delayed

<b>Overview</b>	No specific symptom data available. No chronic toxicity or long term toxicity information available. Treat symptomatically. See section 2 for further details.
<b>Inhalation</b>	May cause respiratory irritation.
<b>Eyes</b>	Causes serious eye damage.
<b>Skin</b>	May cause an allergic skin reaction. Causes severe skin burns and eye damage.

## Section 5. Fire-fighting measures

### Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO<sub>2</sub>, powder, water spray.

Unsuitable extinguishing media: Do not use; water jet.

### Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available.

Keep container tightly closed.

Do not breathe dust, fume, mist, vapors or spray.

### Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

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## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### Environmental precautions

Do not allow spills to enter drains or waterways.

### Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8. Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations.

## Section 7. Handling and storage

### Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

See section 2 for further details. - [Prevention]

### Conditions for safe storage, including any incompatibilities

Incompatible materials: No available information

See section 2 for further details. - [Storage]

### Specific end use(s)

No available information

## Section 8. Exposure controls / personal protection

### Control parameters

### Exposure Limits

CAS No.	Ingredient	Source	Value
97-99-4	Tetrahydro-2-furylmethanol	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
102-71-6	Triethanolamine, TEA(99%)	OSHA	No Established Limit
		ACGIH	5 mg/m <sup>3</sup>
		NIOSH	No Established Limit
111-41-1	2-(2-Aminoethylamino)ethanol (AEEA)	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
1314-13-2	Zinc oxide	OSHA	5 mg/m <sup>3</sup> (fume and respirable fraction), 15 mg/m <sup>3</sup> (total dust)
		ACGIH	2 mg/m <sup>3</sup> (R) Respirable fraction 10 mg/m <sup>3</sup> (R) Respirable fraction
		NIOSH	10 mg/m <sup>3</sup> STEL (fume)
13826-83-0	Ammonium fluoborate	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit

## **Exposure controls**

- Respiratory** If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.
- Eyes** Wear safety glasses with side shields to protect the eyes. An eye wash station is suggested as a good workplace practice.
- Skin** Avoid skin contact. Wear PVC or rubber gloves to keep skin contact to a minimum. Refer to the manufacturer's recommendations regarding the suitability of any gloves used.
- Engineering Controls** Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
- Other Work Practices** Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

## Section 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical State</b>	Liquid
<b>Color</b>	Yellow
<b>Odor</b>	Ammonia
<b>Melting point / freezing point</b>	No available information
<b>Initial boiling point and boiling range</b>	No available information
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Upper/lower flammability or explosive limits</b>	<b>Lower Explosive Limit:</b> No available information <b>Upper Explosive Limit:</b> No available information
<b>Flash Point</b>	°F °C, Test method: (Open/Close cup)
<b>Auto-ignition temperature</b>	No available information
<b>Decomposition temperature</b>	No available information
<b>pH</b>	No available information
<b>Viscosity (cSt)</b>	No available information
<b>Solubility in Water</b>	Miscibility with water
<b>Partition coefficient n-octanol/water (Log Kow)</b>	No available information
<b>Vapor pressure (Pa)</b>	No available information
<b>Relative Density</b>	No available information
<b>Vapor Density</b>	No available information
<b>Evaporation rate (Ether = 1)</b>	No available information
<b>Oxidising properties</b>	No available information
<b>Explosive properties</b>	No available information
<b>Other information</b>	
No other relevant information.	

## Section 10. Stability and reactivity

### Reactivity

Hazardous Polymerization will not occur.

### Chemical stability

Stable under normal circumstances.

### Possibility of hazardous reactions

No available information

### Conditions to avoid

Avoid high temperatures and contact with incompatible material

### Incompatible materials

No available information

### Hazardous decomposition products

No hazardous decomposition data available.

## Section 11. Toxicological information

### Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Triethanolamine, TEA(99%) - (102-71-6)	6,400.00, Rat - Category: NA	> 2,000.00, Rabbit - Category: NA	No data available.	No data available.	No data available.
2-(2-Aminoethylamino)ethanol (AEEA) - (111-41-1)	2,150.00, Rat - Category: 5	>2,000.00, Rabbit - Category: 5	No data available.	No data available.	No data available.
Tetrahydro-2-furylmethanol - (97-99-4)	No data available.	No data available.	No data available.	No data available.	No data available.
Ammonium fluoborate - (13826-83-0)	No data available.	No data available.	No data available.	No data available.	No data available.
Zinc oxide - (1314-13-2)	> 5,000.00, Rat - Category: NA	No data available.	No data available.	5.70, Rat - Category: 5	No data available.

### Carcinogen Data

CAS No.	Ingredient	Source	Value
97-99-4	Tetrahydro-2-furylmethanol	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No;
		ACGIH	No Established Limit
102-71-6	Triethanolamine, TEA(99%)	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes;
		ACGIH	No Established Limit
111-41-1	2-(2-Aminoethylamino)ethanol (AEEA)	OSHA	Regulated Carcinogen: No;

		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No;
		ACGIH	No Established Limit
1314-13-2	Zinc oxide	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No;
		ACGIH	No Established Limit
13826-83-0	Ammonium fluoborate	OSHA	Regulated Carcinogen: No;
		NTP	Known: No; Suspected: No;
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No;
		ACGIH	No Established Limit
Classification		Category	Hazard Description
Acute toxicity (oral)		---	Not Applicable
Acute toxicity (dermal)		---	Not Applicable
Acute toxicity (inhalation)		---	Not Applicable
Skin corrosion/irritation		1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation		1	Causes serious eye damage.
Respiratory sensitization		---	Not Applicable
Skin sensitization		1	May cause an allergic skin reaction.
Germ cell mutagenicity		---	Not Applicable
Carcinogenicity		---	Not Applicable
Reproductive toxicity		1B	May damage fertility. May damage the unborn child.
STOT-single exposure		---	Not Applicable
STOT-single exposure		3	May cause respiratory irritation.
STOT-repeated exposure		---	Not Applicable
Aspiration hazard		---	Not Applicable

**Possible routes of entry:** No available information

**Symptoms and effects, both acute and delayed:**

No specific symptom data available.

No chronic toxicity or long term toxicity information available. Treat symptomatically.

**Eyes** Causes serious eye damage.

**Skin** May cause an allergic skin reaction. Causes severe skin burns and eye damage.

## Section 12. Ecological information

### Toxicity

Toxic to aquatic life with long lasting effects.

### Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L
Triethanolamine, TEA(99%) - (102-71-6)	11,800.00, Pimephales promelas	609.88, Ceriodaphnia dubia	512.00, Desmodesmus subspicatus
2-(2-Aminoethylamino)ethanol (AEEA) - (111-41-1)	640.00, Fish	190.00, Daphnia magna	920.00, Algae
Tetrahydro-2-furylmethanol - (97-99-4)	No data available.	No data available.	No data available.
Ammonium fluoborate - (13826-83-0)	No data available.	No data available.	No data available.
Zinc oxide - (1314-13-2)	No data available.	101.00, Daphnia magna	No data available.

### Persistence and degradability

There is no data available on the preparation itself.

### Bioaccumulative potential

No available information

### Mobility in soil

No available information

### Results of PBT and vPvB assessment

This product contains no PBT/vPvB/vPvM chemicals.

### Other adverse effects

No available information

## Section 13. Disposal considerations

### Waste treatment methods

Observe all federal, provincial and local regulations when disposing of this substance.

## Section 14. Transport information

	<b>DOT (Domestic Surface Transportation)</b>	<b>IMO / IMDG (Ocean Transportation)</b>	<b>ICAO/IATA</b>
<b>UN number</b>	UN1760	UN1760	UN1760
<b>UN proper shipping name</b>	Corrosive liquids, n.o.s., (Ammonium fluoborate)	Corrosive liquids, n.o.s., (Ammonium fluoborate)	Corrosive liquids, n.o.s., (Ammonium fluoborate)
<b>Transport hazard class(es)</b>	<b>Class:</b> 8 <b>Sub Class:</b> Not Applicable	<b>Class:</b> 8 <b>Sub Class:</b> Not Applicable	<b>Class:</b> 8 <b>Sub Class:</b> Not Applicable
<b>Packing group</b>	III	III	III
<b>Environmental hazards</b>	Marine Pollutant: Yes; ( Zinc oxide )		
<b>Special precautions for user</b>	No available information		

## Section 15. Regulatory information

**Regulatory Overview** The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Classification of the substance or mixture under OSHA’s Hazard Communication Standard (1910.1200) revised 2024 (GHS revision 7)

### Toxic Substance Control Act (TSCA)

CAS Number	Ingredient	Toxic Substance Control Act (TSCA)	Comments	Status
0000111-41-1	2-(2-Aminoethylamino)ethanol (AEEA)	Yes		ACTIVE
0013826-83-0	Ammonium fluoborate	Yes		ACTIVE
0000097-99-4	Tetrahydro-2-furylmethanol	Yes		ACTIVE
0000102-71-6	Triethanolamine, TEA(99%)	Yes		ACTIVE
0001314-13-2	Zinc oxide	Yes		ACTIVE

### EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### EPCRA 313 Toxic Chemicals:

Zinc oxide

### Proposition 65 - Carcinogens (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Female Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Male Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 Label Warning:**

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

<b>Section 16. Other information</b>
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**Revision Date**            03/18/2025

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material in any process. The information set forth herein is furnished free of charge and is based on technical data that the supplier believes to be reliable. It is intended for use by persons having technical skill and at their own discretion and risk. Since conditions of use are outside of the supplier's control, the supplier makes no warranties, expressed or implied, and assumes no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under, or a recommendation to infringe upon, any patents.

The full text of the phrases appearing in section 3 is:

- H290 May be corrosive to metals.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H360 May damage fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.