# Aluminum Flux Paste

**LA-CO Industries, Inc.**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
according to Canadian Hazardous Products Regulations (HPR)
Date of issue: 09/07/2011
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Version: 3.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form : Mixture

Trade name : Aluminum Flux Paste

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Soldering flux

### 1.3. Details of the supplier of the safety data sheet

LA-CO Industries, Inc.
1201 Pratt Boulevard
Elk Grove Village, IL. 60007-5746
Phone: (847) 956-7600
Fax: (847) 956-9885
E-mail: customer_service@laco.com

### 1.4. Emergency telephone number

Emergency number : 24-hour emergency: CHEMTREC- U.S. : 1-800-424-9300 International: +1-703-527-3887

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification in accordance with the Globally Harmonized Standard**

| | |
|---|---|
| Acute Tox. 4 (Oral) | H302 |
| Acute Tox. 4 (Inhalation:dust,mist) | H332 |
| Skin Corr. 1B | H314 |
| Skin Sens. 1 | H317 |
| Muta. 2 | H341 |
| Repr. 2 | H361 |
| STOT SE 3 | H335 |
| STOT RE 2 | H373 |
| Aquatic Chronic 2 | H411 |

Full text of hazard classes and H-statements : see section 16

### 2.2 Label elements

**GHS-US labelling**

Hazard pictograms (GHS-US) :

GHS05 GHS07 GHS08 GHS09

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :
H302+H332 - Harmful if swallowed or if inhaled
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe fume, spray
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing must not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear eye protection, face shield, protective clothing, protective gloves

P301+P312 - If swallowed: Call a POISON CENTER, a doctor if you feel unwell
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention
P310 - Immediately call a doctor, a POISON CENTER
P314 - Get medical advice/attention if you feel unwell
P321 - Specific treatment (see First aid measures on this label)
P330 - Rinse mouth
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P363 - Wash contaminated clothing before reuse
P391 - Collect spillage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to an approved waste disposal plant

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

| Name | Product identifier | % (w/w) | GHS-US classification |
|---|---|---|---|
| 2-aminoethanol | (CAS No) 141-43-5 | 56.6 | Flam. Liq. 4, H227<br>Acute Tox. 4 (Oral), H302<br>Acute Tox. 4 (Dermal), H312<br>Acute Tox. 4 (Inhalation:dust,mist), H332<br>Skin Corr. 1B, H314<br>STOT SE 3, H335 |
| ammonium hydrogendifluoride | (CAS No) 1341-49-7 | 17.92 - 18.87 | Acute Tox. 3 (Oral), H301<br>Skin Corr. 1B, H314 |
| tin chloride | (CAS No) 7772-99-8 | 13.16 - 14.62 | Acute Tox. 4 (Inhalation:dust,mist), H332<br>Skin Corr. 1C, H314<br>Skin Sens. 1, H317<br>Muta. 2, H341<br>Repr. 2, H361<br>STOT SE 3, H335<br>STOT RE 2, H373<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 |
| zinc chloride | (CAS No) 7646-85-7 | 8.51 - 8.96 | Acute Tox. 4 (Oral), H302<br>Skin Corr. 1B, H314<br>STOT SE 3, H335<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 |
| ammonium fluoride | (CAS No) 12125-01-8 | 0.19 - 0.94 | Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation:dust,mist), H331 |

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician. Wash with plenty of soap and water. If skin irritation or rash occurs: Get immediate medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after 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.

First-aid measures after ingestion : Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

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

| | | |
|---|---|---|
| Symptoms/injuries | : | Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. |
| Symptoms/injuries after inhalation | : | Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause respiratory irritation. |
| Symptoms/injuries after skin contact | : | Causes severe skin burns and eye damage. May cause an allergic skin reaction. |
| Symptoms/injuries after eye contact | : | Causes serious eye damage. |
| Symptoms/injuries after ingestion | : | Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed. |

### 4.3. Indication of any immediate medical attention and special treatment needed

All treatments should be based on observed signs and symptoms of distress in the patient.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

| | | |
|---|---|---|
| Suitable extinguishing media | : | Carbon dioxide. Dry powder. Foam. |
| Unsuitable extinguishing media | : | Do not use a solid water stream as it may scatter and spread fire. |

### 5.2. Special hazards arising from the substance or mixture

| | | |
|---|---|---|
| Fire hazard | : | No particular fire or explosion hazard. |
| Reactivity | : | Thermal decomposition generates : Corrosive vapours. |

### 5.3. Advice for firefighters

| | | |
|---|---|---|
| Firefighting instructions | : | Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses. Cool adjacent structures and containers with water spray to protect and prevent ignition. |
| Protection during firefighting | : | Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flame resistant/retardant clothing. Wear a self contained breathing apparatus. |

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

| | | |
|---|---|---|
| General measures | : | Avoid all eye and skin contact and do not breathe vapour and mist. |

#### 6.1.1. For non-emergency personnel

| | | |
|---|---|---|
| Protective equipment | : | Chemical goggles or safety glasses. Wear suitable gloves. Face shield. |
| Emergency procedures | : | Evacuate unnecessary personnel. |

#### 6.1.2. For emergency responders

| | | |
|---|---|---|
| Protective equipment | : | Wear suitable gloves. Chemical goggles or safety glasses. Face shield. |
| Emergency procedures | : | Ventilate area. |

### 6.2. Environmental precautions

Avoid release to the environment. Do not discharge into drains or the environment. Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

| | | |
|---|---|---|
| For containment | : | Stop the flow of material, if this is without risk. |
| Methods for cleaning up | : | Take up in non-combustible absorbent material and shove into container for disposal. |

### 6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

| | | |
|---|---|---|
| Precautions for safe handling | : | Use only outdoors or in a well-ventilated area. Do not breathe fume, spray. Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood. |
| Hygiene measures | : | Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. |

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.
Storage conditions : Keep only in original container. Keep container tightly closed.
Incompatible products : Strong oxidizers.
Incompatible materials : Sodium nitrite. Hydrogen fluoride.
Prohibitions on mixed storage : Incompatible materials.
Storage area : Store in dry, cool, well-ventilated area.

### 7.3. Specific end use(s)

Flux.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Aluminum Flux Paste** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **2-aminoethanol (141-43-5)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 7.5 mg/m³ |
| ACGIH | ACGIH TWA (ppm) | 3 ppm |
| ACGIH | ACGIH STEL (mg/m³) | 15 mg/m³ |
| ACGIH | ACGIH STEL (ppm) | 6 ppm |
| ACGIH | Remark (ACGIH) | Eye & skin irr |
| OSHA | OSHA PEL (TWA) (mg/m³) | 6 mg/m³ |
| OSHA | OSHA PEL (TWA) (ppm) | 3 ppm |
| Canada (Quebec) | VECD (mg/m³) | 15 mg/m³ |
| Canada (Quebec) | VECD (ppm) | 6 ppm |
| Canada (Quebec) | VEMP (mg/m³) | 7.5 mg/m³ |
| Canada (Quebec) | VEMP (ppm) | 3 ppm |

| **tin chloride (7772-99-8)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **zinc chloride (7646-85-7)** | | |
|---|---|---|
| ACGIH | ACGIH TWA (mg/m³) | 1 mg/m³ |
| ACGIH | ACGIH STEL (mg/m³) | 2 mg/m³ |
| ACGIH | Remark (ACGIH) | LRT & URT irr |
| OSHA | OSHA PEL (TWA) (mg/m³) | 1 mg/m³ |
| Canada (Quebec) | VEMP (mg/m³) | 1 mg/m³ |

| **ammonium fluoride (12125-01-8)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | Not applicable | |

| **ammonium hydrogendifluoride (1341-49-7)** | | |
|---|---|---|
| ACGIH | Not applicable | |
| OSHA | OSHA PEL (TWA) (mg/m³) | 2.5 mg/m³ |

### 8.2. Exposure controls

Appropriate engineering controls : Avoid creating mist or spray. Emergency safety showers should be available in the immediate vicinity of any potential exposure. Eyewash stations. Either local exhaust or general room ventilation is usually required.
Personal protective equipment : Avoid all unnecessary exposure.
Hand protection : Wear suitable gloves resistant to chemical penetration. Use rubber gloves.
Eye protection : Face shield. Chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing. Impervious clothing.
Respiratory protection : Wear appropriate mask. Use air-purifying respirator equipped with particulate filtering cartridges.

Other information : Do not eat, drink or smoke when using this product.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | : Solid |
| Colour | : light amber. |
| Odour | : Ammonia-like. |
| Odour threshold | : No data available |
| pH | : 6 - 8 |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : > 93.3 °C |
| Flash point | : > 93 °C |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Relative density | : 1.33 |
| Solubility | : Soluble in water. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : No data available |

### 9.2. Other information

VOC content : 0 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

### 10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Heat.

### 10.5. Incompatible materials

Strong oxidizers. Sodium nitrite.

### 10.6. Hazardous decomposition products

Thermal decomposition generates : Corrosive vapours. Hydrogen fluoride. ammonia. Carbon monoxide. Burning produces irritating, toxic and noxious fumes.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

**Acute toxicity** : Oral: Harmful if swallowed. Inhalation:dust,mist: Harmful if inhaled.

| **Aluminum Flux Paste** | |
|---|---|
| LD50 oral rat | 671 mg/kg |
| ATE CLP (oral) | 671.000 mg/kg bodyweight |
| ATE CLP (dust,mist) | 2.174 mg/l/4h |

| **2-aminoethanol (141-43-5)** | |
|---|---|
| LD50 oral rat | 1515 mg/kg |

| **2-aminoethanol (141-43-5)** | |
|---|---|
| LD50 dermal rabbit | 1822 (1822 - 3451) mg/kg |
| LC50 inhalation rat (mg/l) | > 1.3 mg/l |
| ATE CLP (oral) | 1515.000 mg/kg bodyweight |
| ATE CLP (dermal) | 1822.000 mg/kg bodyweight |
| ATE CLP (dust,mist) | 1.500 mg/l/4h |

| **tin chloride (7772-99-8)** | |
|---|---|
| LD50 oral rat | 2274.6 mg/kg bodyweight |
| LC50 inhalation rat (mg/l) | 2 mg/l/4h |
| ATE CLP (oral) | 2274.600 mg/kg bodyweight |
| ATE CLP (vapours) | 2.000 mg/l/4h |
| ATE CLP (dust,mist) | 2.000 mg/l/4h |

| **zinc chloride (7646-85-7)** | |
|---|---|
| LD50 oral rat | 1100 mg/kg |
| LD50 dermal rabbit | > 2000 mg/kg no effects were seen |
| LC50 inhalation rat (mg/l) | 2000 mg/m³ calculated |
| ATE CLP (oral) | 1100.000 mg/kg bodyweight |

| **ammonium fluoride (12125-01-8)** | |
|---|---|
| LD50 oral rat | 200 (200 - 2000) mg/kg |
| LC50 inhalation rat (mg/l) | 1 mg/l/4h read-across NaF |
| ATE CLP (oral) | 200.000 mg/kg bodyweight |
| ATE CLP (dermal) | 300.000 mg/kg bodyweight |
| ATE CLP (vapours) | 1.000 mg/l/4h |
| ATE CLP (dust,mist) | 1.000 mg/l/4h |

| **ammonium hydrogendifluoride (1341-49-7)** | |
|---|---|
| LD50 oral rat | 130 mg/kg |
| ATE CLP (oral) | 130.000 mg/kg bodyweight |

**Skin corrosion/irritation** : Causes severe skin burns and eye damage.

**Serious eye damage/irritation** : Not classified

**Respiratory or skin sensitisation** : May cause an allergic skin reaction.

**Germ cell mutagenicity** : Suspected of causing genetic defects.

**Carcinogenicity** : Not classified

**Reproductive toxicity** : Suspected of damaging fertility or the unborn child.

**Specific target organ toxicity (single exposure)** : May cause respiratory irritation.

**Specific target organ toxicity (repeated exposure)** : May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard** : Not classified

**Potential adverse human health effects and symptoms**

Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.

Likely routes of exposure : Skin and eye contact;Inhalation

## SECTION 12: Ecological information

**12.1 Toxicity**

Ecology - water : Toxic to aquatic life with long lasting effects.

| **2-aminoethanol (141-43-5)** | |
|---|---|
| LC50 fish 1 | 165 mg/l 48 h |
| EC50 Daphnia 1 | 65 mg/l 48 h |

| **tin chloride (7772-99-8)** | |
|---|---|
| NOEC chronic crustacea | 0.18 mg/l |

| **zinc chloride (7646-85-7)** | |
|---|---|
| LC50 fish 1 | 0.727 (0.727 - 1.65) mg/l Oncorhynchus kisutch |

| zinc chloride (7646-85-7) | |
|---|---|
| EC50 Daphnia 1 | 0.33 (0.33 - 0.66) mg/l |

| ammonium fluoride (12125-01-8) | |
|---|---|
| LC50 fish 1 | 209 mg/l 96 h |
| EC50 other aquatic organisms 1 | 26 - 48 mg/l 96 h, trichoptera aquatic larvae |
| NOEC (acute) | 11.8 mg/l test mat. estimated from NH3-N content according to EPA-600/3-79-091 |

| ammonium hydrogendifluoride (1341-49-7) | |
|---|---|
| LC50 fish 1 | 421.4 nM |
| EC50 Daphnia 1 | 109 - 340 mg/l |

### 12.2. Persistence and degradability

| Aluminum Flux Paste | |
|---|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |

| 2-aminoethanol (141-43-5) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |

| tin chloride (7772-99-8) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |

### 12.3. Bioaccumulative potential

| 2-aminoethanol (141-43-5) | |
|---|---|
| Log Pow | -1.31 |

| tin chloride (7772-99-8) | |
|---|---|
| Log Pow | -2.1506 |

| zinc chloride (7646-85-7) | |
|---|---|
| Bioaccumulative potential | Not expected to bioaccumulate. |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT and TDG

Transport document description : UN1759 Corrosive solids, n.o.s. (2-aminoethanol, ammonium dihydrogenfluoride), 8, II

UN-No.(DOT) : UN1759

Proper Shipping Name (DOT) : Corrosive solids, n.o.s. (2-aminoethanol, ammonium dihydrogenfluoride)

Transport hazard class(es) (DOT) : 8 - Corrosive

Packing group (DOT) : II - Medium Danger

Dangerous for the environment : Yes

Marine pollutant : Yes

**ADR**

Transport document description : UN 1759 CORROSIVE SOLID, N.O.S. (2-aminoethanol, ammonium dihydrogenfluoride), 8, II, (E)

Proper Shipping Name (ADR) : CORROSIVE SOLID, N.O.S. (2-aminoethanol, ammonium dihydrogenfluoride)

Packing group (ADR) : II

Transport hazard class(es) (ADR) : 8

Dangerous for the environment : Yes

Marine pollutant : Yes

**Transport by sea**

UN-No. (IMDG) : UN 1759
Proper Shipping Name (IMDG) : CORROSIVE SOLID, N.O.S. (2-aminoethanol, ammonium dihydrogenfluoride)
Transport hazard class(es) (IMDG) : 8
Packing group (IMDG) : II
Dangerous for the environment : Yes
Marine pollutant : Yes

**Air transport**

UN-No. (IATA) : UN 1759
Proper Shipping Name (IATA) : Corrosive solid, n.o.s. (2-aminoethanol, ammonium dihydrogenfluoride)
Transport hazard class(es) (IATA) : 8
Packing group (IATA) : II
Dangerous for the environment : Yes
Marine pollutant : Yes

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| **2-aminoethanol (141-43-5)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| **tin chloride (7772-99-8)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

| **zinc chloride (7646-85-7)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory<br>Subject to reporting requirements of United States SARA Section 313 | |

| **ammonium fluoride (12125-01-8)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 100 lb |

| **ammonium hydrogendifluoride (1341-49-7)** | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 100 lb |

### 15.2. International regulations

**CANADA**

| **2-aminoethanol (141-43-5)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **tin chloride (7772-99-8)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **zinc chloride (7646-85-7)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **ammonium fluoride (12125-01-8)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

| **ammonium hydrogendifluoride (1341-49-7)** |
|---|
| Listed on the Canadian DSL (Domestic Substances List) inventory. |

**EU-Regulations**

| **2-aminoethanol (141-43-5)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **tin chloride (7772-99-8)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **zinc chloride (7646-85-7)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **ammonium fluoride (12125-01-8)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| **ammonium hydrogendifluoride (1341-49-7)** |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

**National regulations**

| **Aluminum Flux Paste** |
|---|
| All components are listed on the EEC inventory European Inventory of Existing Commercial Chemical Substances (EINECS).<br>All ingredients are listed in the Toxic Substances Control Act (TSCA).<br>All ingredients are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL). |

**15.3. US State regulations**

| **2-aminoethanol (141-43-5)** |
|---|
| U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Minnesota - Hazardous Substance List |

| **tin chloride (7772-99-8)** |
|---|
| U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - New York - Right to Know List of Hazardous Chemicals |

| **ammonium fluoride (12125-01-8)** |
|---|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

| **ammonium hydrogendifluoride (1341-49-7)** |
|---|
| U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

Indication of changes : Transport information.

Data sources : Canadian Centre for Occupational Health and Safety. Accessed at: http://www.ccohs.ca/oshanswers/legisl/whmis_classifi.html.

ESIS (European chemincal Substances Information System; accessed at: http://esis.jrc.ec.europa.eu/index.php?PGM=cla.

European Chemicals Agency (ECHA) Registered Substances list. Accessed at http://echa.europa.eu/. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.

National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition.

OSHA 29CFR 1910.1200 Hazard Communication Standard.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

TSCA Chemical Substance Inventory. Accessed at http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html.

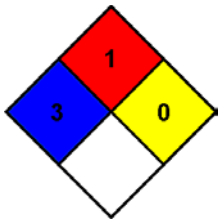
Abbreviations and acronyms : ACGIH (American Conference of Governement Industrial Hygienists).
ATE: Acute Toxicity Estimate.
CAS (Chemical Abstracts Service) number.
CLP: Classification, Labelling, Packaging.
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
LD50: Lethal Dose for 50% of the test population.
OSHA: Occupational Safety & Health Administration.
PBT: Persistent, Bioaccumulative, Toxic.
STEL: Short Term Exposure Limits.
TSCA: Toxic Substances Control Act.
TWA: Time Weight Average.

Other information : None.

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.




Full text of H-statements:

| | |
|---|---|
| Acute Tox. 3 (Dermal) | Acute toxicity (dermal), Category 3 |
| Acute Tox. 3 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 3 |
| Acute Tox. 3 (Oral) | Acute toxicity (oral), Category 3 |
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist) Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment — Chronic Hazard, Category 2 |
| Flam. Liq. 4 | Flammable liquids, Category 4 |
| Muta. 2 | Germ cell mutagenicity, Category 2 |
| Repr. 2 | Reproductive toxicity, Category 2 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| Skin Corr. 1C | Skin corrosion/irritation, Category 1C |
| Skin Sens. 1 | Sensitisation — Skin, Category 1 |
| STOT RE 2 | Specific target organ toxicity — Repeated exposure, Category 2 |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| H227 | Combustible liquid |
| H301 | Toxic if swallowed |
| H302 | Harmful if swallowed |
| H311 | Toxic in contact with skin |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H317 | May cause an allergic skin reaction |
| H331 | Toxic if inhaled |
| H332 | Harmful if inhaled |
| H335 | May cause respiratory irritation |
| H341 | Suspected of causing genetic defects |
| H361 | Suspected of damaging fertility or the unborn child |
| H373 | May cause damage to organs through prolonged or repeated exposure |
| H400 | Very toxic to aquatic life |
| H410 | Very toxic to aquatic life with long lasting effects |
| H411 | Toxic to aquatic life with long lasting effects |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