



## SAFETY DATA SHEET

User must review the contents of this (SDS) and determine what is applicable to their own country laws under Health and Safety and apply them as necessary. This (SDS) will not reference every countries Health and Safety Laws. It is the user's responsibility to determine what is applicable to them, including but not limited to review of any specific chemical lists and apply the requirements as necessary.

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** 1010 FLUX

**SDS Number:** SDS-4156

**Revised Date:** 2 MAY 2018

**Product Use:** Industrial Use - Wave Solder Flux (mixture)

#### MANUFACTURER:

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## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

⊗Eye    ⊗Inhalation    ⊗Skin    ⊗Ingestion    NTP    IARC    OSHA    ⊗Not Listed

### Carcinogen listed in

GHS:



Signal word: Danger

### Hazard statement(s)

H314 Causes severe skin burns and eye damage  
H335 May cause respiratory irritation

### Precautionary statement(s)

P233 Keep container tightly closed  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P270 Do not eat, drink or smoke when using this product  
P273 Avoid release to the environment  
P280 Wear protective gloves/protective clothing/eye protection/face protection  
P362 + P364 Take off contaminated clothing and wash before reuse  
P301 + P314 IF SWALLOWED: Get Medical advice/attention if you feel unwell  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water  
P304 + 341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + 351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)

### Classification:

Skin corrosion – Category 1B  
Serious Eye Damage – Category 1

### POTENTIAL HEALTH EFFECTS:

**Eye Contact:** Vapors may be irritating, liquid may damage eye tissue.

**Ingestion:** May cause irritation.

**Inhalation:** Vapors may cause irritation.

**Skin Contact:** May cause irritation. Prolonged contact may cause severe irritation and/or burns.

**Chronic:** Not established.

**NOTE:** The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

| Components                                  | % wt    | CAS Registry # | PEL<br>mg/m <sup>3</sup> | TLV-TWA<br>mg/m <sup>3</sup> | TLV-STEL<br>mg/m <sup>3</sup> |
|---|---------|----------------|--------------------------|------------------------------|-------------------------------|
| <b>HYDROCHLORIC ACID<br/>(MINERAL ACID)</b> | 2-5     | 7647-01-0(US)  | N.E.                     | N.E.                         | 7(ceiling)                    |
|   |         | (EU)           | -                        | 2(gas/mist)                  | 8                             |
|   |         | (Canada)       | -                        | -                            | 7.5(ceiling)                  |
|   |         | (Singapore)    | 7.5                      | -                            | -                             |
|   | (China) | -              | 7.5                      | -                            | -                             |
| <b>WATER</b>                                | 68-75   | 7732-18-5      | N.E.                     | N.E.                         | N.E.                          |
| <b>SURFACTANT</b>                           | 10-20   | -              | N.E.                     | N.E.                         | N.E.                          |

N.E. = Not established

**4. FIRST AID MEASURES**

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention immediately.
- Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.
- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention. Acid may cause burns to the skin, proper flushing is important.

**5. FIRE FIGHTING MEASURES**

- Flash Point:** None                      **Method:** NA
- Auto-ignition Temperature:** Not available
- Flammable Limits:** NA
- Extinguishing Media:** Dry chemical, Water or CO<sub>2</sub>. Use extinguishers appropriate for the surrounding fire conditions.
- Special Fire Fighting Procedures:** .  
Wear protective clothing and self - contained breathing apparatus. Use water to cool fire exposed containers. Flammable vapors may travel great distances to ignition source and flash back.

**6. ACCIDENTAL RELEASE MEASURES**

**Spill or Leak Procedures:** Do not allow material, as is, to enter sewer system or waterway. Product has a low pH, which may be prohibited for direct discharge. Wear personal protective equipment. Ventilate area in accordance with regulations. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations. Product contains a substance classified as a Marine Pollutant.

## 7. HANDLING AND STORAGE

**Handling Precautions:** Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment.

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Refer to product label for specific storage temperature requirements. Rotate stock to ensure use before expiration date on the label.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Face velocity >2.1 cubic feet/minute in confined areas. General exhaust ventilation recommended.

### Personal protection:

**Eyes:** Chemical safety glasses/goggles and face shield for splash hazard operations.

**Respirator:** An approved or compliant marked air-purifying respirator with a fume/acid chemical cartridge is recommended where airborne concentrations are expected to be elevated.

**Skin:** Compatible chemical resistant gloves for exposure to hydrochloric acid solution. Product is corrosive.

**Other:** Lab coat, eye-wash fountain in work area, sleeve protection and apron in splash situations. Avoid the use of contact lenses in high fume areas.

**Work/Hygienic Practices:** Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                          |                     |                             |                               |
|--------------------------|---------------------|-----------------------------|-------------------------------|
| <b>Appearance:</b>       | Clear to straw      | <b>Boiling Point:</b>       | 212°F                         |
| <b>Odor:</b>             | Mild odor.          | <b>Melting Point:</b>       | Not determined                |
| <b>Specific Gravity:</b> | 1.058 +/- 0.02 @60F | <b>pH:</b>                  | Below 2 (varies between 1- 2) |
| <b>Vapor Pressure:</b>   | 23.7 mm HG @ 25C    | <b>Solubility in Water:</b> | Soluble                       |
| <b>Vapor Density:</b>    | Not determined      | <b>Volatiles:</b>           | 70%                           |

## 10. STABILITY AND REACTIVITY

**General:** Stable.

**Conditions to Avoid:** Direct heat, open flames and storage in aluminum.

**Incompatible Materials:** Strong alkali

**Hazardous Decomposition / Combustion:** Carbon dioxide/carbon monoxide.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Carcinogenicity Listed:** NTP: No  
OSHA: No  
IARC: No

**LD50:** Not established.                      **LC50:** Not established.

Product not tested.

## 12. ECOLOGICAL INFORMATION

Product not tested. Product contains a substance that is harmful to the aquatic environment.

## 13. DISPOSAL CONSIDERATION

**Waste Disposal Method:** Dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations. Generally classified as hazardous waste. Corrosive liquids are hazardous waste.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements. DOT shipping name:

UN 1789, HYDROCHLORIC ACID, 8, PG III SOLUTION

Emergency Guide Book: Guide # 157

Label: Corrosive



## 15. REGULATORY INFORMATION

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET. SEQ.).

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).



WHMIS: Corrosive Class E

This product has been classified in accordance with the guidelines set by the Dept. of Industrial Health of the Republic of Singapore.

This product has been classified under the Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

In China:

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007. Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals  
 GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)  
 GB/T 16483-2008, GB/T 17517-2013

This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS).

SARA 313 Listing - 40 CFR 372.65: hydrochloric acid (aerosol form only)

All ingredients are listed on the EPA TSCA Inventory.

Ingredients are listed on the Canadian Domestic Substance List.

**16. OTHER INFORMATION**

|                            |                    |   |
|----------------------------|--------------------|---|
| <b>HMIS Hazard Rating:</b> | <b>Health:</b>     | 2 |
|                            | <b>Fire:</b>       | 0 |
|                            | <b>Reactivity:</b> | 0 |

**Revised Date:** 2 MAY 2018

**Prepared by:** Nancy Swarts, Indium Corporation of America

**Approved by:** Nancy Swarts, Indium Corporation of America

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