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:
The Indium Corporation of America®
34 Robinson Rd., Clinton, New York 13323
Information: (315) 853-4900
 NSWARTS@INDIUM.COM

In Europe:
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Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

In Asia:
Indium Corporation of America
Asia-Pacific Operations-Singapore
29 Kian Teck Avenue
Singapore 628908
Information: +65 6268-8678

CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887

In China:
Indium Corporation (Suzhou) Co., Ltd
No. 428 Xinglong Street
Suzhou Industrial Park
Suchun Industrial Square
Unit No. 14-C
Jiangsu Province, China 215126
Information: (86) 512-6283-4900
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

- Eye
- Inhalation
- Skin
- Ingestion

Carcinogen listed in
- NTP
- IARC
- OSHA
- Not Listed

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

<table>
<thead>
<tr>
<th>Components</th>
<th>% wt</th>
<th>CAS Registry #</th>
<th>PEL mg/m³</th>
<th>TLV-TWA mg/m³</th>
<th>TLV- STEL mg/m³</th>
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<tbody>
<tr>
<td>HYDROCHLORIC ACID</td>
<td>2-5</td>
<td>7647-01-0(US)</td>
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<tr>
<td>(MINERAL ACID)</td>
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<tr>
<td>(EU)</td>
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<td></td>
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<td>2(gas/mist)</td>
<td>8</td>
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<tr>
<td>(Canada)</td>
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<td></td>
<td>-</td>
<td>7.5(ceiling)</td>
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<tr>
<td>(Singapore)</td>
<td></td>
<td></td>
<td>7.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(China)</td>
<td></td>
<td></td>
<td>-</td>
<td>7.5</td>
<td>-</td>
</tr>
<tr>
<td>WATER</td>
<td>68-75</td>
<td>7732-18-5</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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<tr>
<td>SURFACTANT</td>
<td>10-20</td>
<td></td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
</tbody>
</table>

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 CO₂. 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: 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
Appearance: Clear to straw
Odor: Mild odor.
Specific Gravity: 1.058 +/- 0.02 @60F
Vapor Pressure: 23.7 mm HG @ 25C

Boiling Point: 212°F
Melting Point: Not determined
pH: Below 2 (varies between 1-2)
Solubility in Water: Soluble
Volatile: 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

HMIS Hazard Rating:

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
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</tbody>
</table>

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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