SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: WS 3543-A FLUX
SDS Number: SDS-4770
Product Use: INDUSTRIAL USE - LIQUID FLUX (WATER WASH)
Revised Date: 22 JUNE 2018

MANUFACTURER:

In America:
The Indium Corporation of America®.
34 Robinson Rd., Clinton, NY 13323
Information: (315) 853-4900
nswarts@indium.com

EMERGENCY PHONE:
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USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887

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

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

http://www.indium.com

FLAMMABLE
3
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

- Eye
- Inhalation
- Skin
- Ingestion

Carcinogen listed in

- NTP
- IARC
- OSHA
- Not Listed

GHS:

Signal Word: Danger

Hazard Statements:

H225  Highly Flammable liquid and vapor
H315  Cause skin irritation
H319  Causes serious eye irritation
H335  May cause respiratory irritation
H336  May cause drowsiness or dizziness

Precautionary statement(s)

P210  Keep away from heat/sparks/open flames/hot surfaces. – No smoking
P233  Keep container tightly closed
P240  Ground container and receiving equipment
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:

- Flammable Liquid – Category 2
- Eye irritation – Category 2A
- Skin irritant- Category 2
- Acute aquatic toxicity-Category 3
- Chronic aquatic toxicity- Category 3
- Specific target organ toxicity- single exposure – Category 3- central nervous system

POTENTIAL HEALTH EFFECTS:

Eye Contact:  Vapors may be irritating liquid may damage eye tissue, and causes burn or irritates eyes.

Ingestion:  May cause irritation if swallowed.

Inhalation:  May cause irritation to respiratory system. Vapor may cause headaches and or dizziness.

Skin Contact:  Prolonged contact may cause dryness and irritation.

Chronic:  Not established.

Note:  The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.
WARNING: This product can expose you to chemicals including [trace amounts of propylene oxide] which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

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-STE L mg/m³</th>
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</thead>
<tbody>
<tr>
<td>ISOPROPANOL</td>
<td>30-35</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>983</td>
<td>1225</td>
</tr>
<tr>
<td>PROPA N-2-OL</td>
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<td></td>
<td></td>
<td></td>
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<td>(EU)</td>
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<td>(Singapore)</td>
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<td>983</td>
<td>-</td>
<td>1230</td>
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<tr>
<td>(Mexico)</td>
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<td></td>
<td></td>
<td>980</td>
<td>1225</td>
</tr>
<tr>
<td>(China)</td>
<td></td>
<td></td>
<td></td>
<td>350</td>
<td>700</td>
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<tr>
<td>ALIPHATIC ALCOHOLS C16-18</td>
<td>7-30</td>
<td>68439-49-6</td>
<td>N.E.</td>
<td>N.E.</td>
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<tr>
<td>FATTY ACIDS, C6-12</td>
<td>10-20</td>
<td>67762-36-1</td>
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<tr>
<td>PROPRIETARY</td>
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</tbody>
</table>

N.E. = Not established EU = European Exposure Limits

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 if irritation persists.

**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.

5. FIRE FIGHTING MEASURES

**Flash Point:** 52°F (11C)  **Method:** Closed Cup

**Auto-ignition Temperature:** Not Available

**Flammable Limits:** Not Available Flammable Product

**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 to enter sewer system or waterway. Wear personal protective equipment. Eliminate sources of ignition. Ventilate area in accordance with regulations. Adsorb spilt material. Or cover with absorbent material and then clean up. Do not throw into regular trash bins. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

7. HANDLING AND STORAGE

**Handling**

Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment. Ground containers when in use.

**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. Keep away from sources of heat and flame. Avoid static build up or charge.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Face velocity >2.1 cubic feet/minute in confined areas. Exhaust ventilation is advised to keep exposures as low as possible. Isopropyl alcohol requires proper ventilation.

**Personal protection:**

**Eyes:** Chemical safety glasses/goggles. Face shield for splash hazards.

**Respirator:** An approved or compliant air-purifying respirator with a fume/organic chemical cartridge is recommended where airborne concentrations are expected to be elevated. Confined areas may require additional protection.

**Skin:** Compatible chemical resistant gloves. Use gloves such as nitrile, which are compatible with alcohols.

**Other:** Lab coat, eye-wash fountain in work area. 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid flux</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol odor.</td>
</tr>
<tr>
<td>Specific Gravity</td>
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</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density</td>
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</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Not available</td>
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</table>
10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Direct heat, open flames and storage in aluminum.
Incompatible Materials: Combustible materials, oxidizing materials
Hazardous Decomposition / Combustion: Carbon dioxide/carbon monoxide.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: National Toxicity Program NTP: No
Occupational Safety & Health Administration OSHA: No
International Agency for Research on Cancer IARC: No
LD50: Not established.
LC50: Not established.

12. ECOLOGICAL INFORMATION

Product not tested.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Dispose of in accordance with all Federal, State and Local environmental regulations. Flammable materials are considered hazardous waste. Contact a permitted environmental waste disposer. In Europe follow the Special Waste Regulations.

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.
Shipping Name: UN 1219, Isopropanol, 3, PG II (mixture)

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).
Canadian WHMIS: Class B Division 2 Flammable, D2B Toxic Material Causing Other toxic effects (eye irritation in animals).

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

WARNING: This product can expose you to chemicals including [trace amounts of propylene oxide] which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

SARA 313 Listing - 40 CFR 372.65: NONE

All ingredients are listed on the EPA TSCA Inventory.
This product has been classified in accordance with Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

Malaysia:
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). (GHS)

In China:
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 using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS Hazard Rating:</th>
<th>Health:</th>
<th>Fire:</th>
<th>Physical Hazard:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>0</td>
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</table>

Revised Date: 22 JUNE 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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