SAFETY DATA SHEET

To better serve all of our customers Indium Corporation has generated one SDS, for this product, to be used within the United States as well as internationally. Some of the regulatory information contained within may not be applicable to the customer’s individual state or country. Unless otherwise stated the health and safety information provided within is applicable to all products.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: WS 3543
SDS Number: SDS-4586
Revised Date: 10 AUGUST 2018
Product Use: INDUSTRIAL USE - WATER WASH LIQUID FLUX

MANUFACTURER:

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

In Europe:
Indium Corporation of America (European Operations)
7 Newmarket Ct.
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
Singapore 628908
Information: +65 6268-8678

EMERGENCY PHONE:
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 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
- Skin irritation- Category 2
- Serious eye irritation- Category 2A
- Specific organ toxicity (respiratory tract)- Category 3
- Specific organ toxicity (narcotic effects)- Category 3

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.

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
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>
</tr>
</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>PROPN-2-OL</td>
<td>(EU) -</td>
<td>-</td>
<td>999</td>
<td>983</td>
<td>1225</td>
</tr>
<tr>
<td>(Canada)</td>
<td>-</td>
<td>-</td>
<td>983</td>
<td>1228</td>
<td></td>
</tr>
<tr>
<td>(Singapore)</td>
<td>983</td>
<td>-</td>
<td>-</td>
<td>1230</td>
<td></td>
</tr>
<tr>
<td>(Mexico)</td>
<td>-</td>
<td>-</td>
<td>980</td>
<td>1225</td>
<td></td>
</tr>
<tr>
<td>(China)</td>
<td>-</td>
<td>-</td>
<td>350</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>ALIPHATIC ALCOHOLS C16-18</td>
<td>7 - 30</td>
<td>68439-49-6</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>BISPHENYL A DIGLYCIDYL ETHER</td>
<td>30-38</td>
<td>1675-54-3</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>FATTY ACIDS, C6-12</td>
<td>10-20</td>
<td>67762-36-1</td>
<td>(US)</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
</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: 11°C (52°F)  Method: Closed Cup
Auto-ignition Temperature: Not Available
Flammable Limits: Not Available
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. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

7. HANDLING AND STORAGE

Handling Precautions: Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment. Ground containers. No flame.

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. Exhaust ventilation is recommended to keep exposure levels as low as possible. Ventilate area.

Personal protection:
- Eyes: Chemical safety glasses/goggles. Face shield for splash hazards.
- Respirator: An approved or compliant marked 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/splash 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: Liquid flux
- Odor: Alcohol odor.
- Specific Gravity: Not available
- Vapor Pressure: Not available
- Boiling Point: Not available
- Evaporation Rate: Not available
- pH: N/A
- Solubility in Water: Yes
- Vapor Density: Not available
10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Direct heat, open flames and storage in aluminum.
Incompatible Materials: Acids, 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.
Product not tested.

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.
UN 1219, Isopropanol , 3, PG II

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).

All of the ingredients are listed on the Canadian Domestic Substances List.

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

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.

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

SARA 313 Listing - 40 CFR 372.65: NONE

All ingredients are listed on the USEPA TSCA Inventory.
Philippines Inventory of Chemicals – All ingredients are listed
Canadian DSL – All ingredients are listed
Korean Existing Chemical List – All ingredients are listed

16. OTHER INFORMATION

HMIS Hazard Rating:
Health: 2
Fire: 3
Reactivity: 0

Revised Date: 10 AUGUST 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

The information and recommendations contained herein are, to the best of The Indium Corporation of America's knowledge and belief, accurate and reliable as of the date issued. The Indium Corporation of America does not warrant or guarantee their accuracy or reliability, and The Indium Corporation of America shall not be liable for any loss or damage arising out of the user thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.