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.

<table>
<thead>
<tr>
<th>1. PRODUCT AND COMPANY IDENTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Identifier: TABBING FLUX GS-5454</td>
</tr>
<tr>
<td>SDS Number: SDS-5034</td>
</tr>
<tr>
<td>Revised Date: 3 OCTOBER 2018</td>
</tr>
<tr>
<td>Product Use: Industrial Use - Flux</td>
</tr>
</tbody>
</table>

MANUFACTURER:

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

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Information: +44 [0] 1908 580400

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

EMERGENCY PHONE:
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USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887
In China: Emergency 86+ 4008417580

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. HAZARD 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
H317  May cause an allergic skin reaction
H319  Causes serious eye irritation
H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335  May cause respiratory irritation
H336  May cause drowsiness or dizziness
EUH208 Contains rosin. May produce an allergic reaction

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
P242  Use only non-sparking tools
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
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 sensitization- Category 1B
- Respiratory sensitization- Category 1B
- 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.

Ingestion: May cause persistent nausea, vomiting and abdominal pain. Contains a chemical classified as
aspiration hazard.

**Inhalation:** Vapor may cause headaches and or dizziness. Rosin may cause occupational asthma.

**Skin Contact:** Prolonged contact may cause irritation and dermatitis.

**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 1,4 dioxane] which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>% wt</th>
<th>CAS Registry #</th>
<th>PEL</th>
<th>TLV-TWA</th>
<th>TLV-STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOPROPANOL</td>
<td>75-85</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>983</td>
<td>1225</td>
</tr>
<tr>
<td>(EU)</td>
<td></td>
<td></td>
<td></td>
<td>999</td>
<td>1250</td>
</tr>
<tr>
<td>(Canada)</td>
<td></td>
<td></td>
<td></td>
<td>983</td>
<td>1228</td>
</tr>
<tr>
<td>(Singapore)</td>
<td></td>
<td>983</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>PROPRIETARY</td>
<td>2-14</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>PETROLEUM DISTILLATES</td>
<td>10</td>
<td>64742-47-8(US)</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>ROSIN</td>
<td>1.0-3.0</td>
<td>8050-09-7 (US)</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>(EU)</td>
<td></td>
<td>0.05</td>
<td>N.E.</td>
<td>0.15(sensitiser)</td>
<td></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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
<td>12°C (54°F)</td>
</tr>
<tr>
<td>Method</td>
<td>Closed Cup</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>398°C (750°F)</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>Upper: 12 @77°F; Lower 2 @ 77°F</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>Dry chemical, Water or CO₂. Use extinguishers appropriate for the surrounding fire conditions.</td>
</tr>
<tr>
<td>Special Fire Fighting Procedures</td>
<td>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.</td>
</tr>
</tbody>
</table>

### 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Do not allow chemical product 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. Properly ground containers to prevent static charge when pouring

**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 recommended.

**Personal Protection:**

- **Eyes:** Chemical safety glasses/goggles. Faceshield for splash hazard.
- **Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended where airborne concentrations are expected to be elevated.
- **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, Light Yellow</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>79°C (175°F)</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol odor.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>1.7</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.806 @ 60° F</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Direct heat, open flames and storage in aluminum.
Incompatible Materials: Anhydrides, halogens, phosphorus, trichlorides, monomers, aldehydes
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. Contains a substance that is harmful to aquatic life.

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. Flammable materials are generally classified as hazardous waste for disposal.

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.
UN 1987, Alcohols, N.O.S., 3, PG II (isopropanol, petroleum distillates)


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

Page 5 of 6
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.

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

WARNING: This product can expose you to chemicals including [trace amounts of 1,4 dioxane] 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: (trace 1,4 dioxane)

All ingredients are listed on the EPA TSCA Inventory.

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 30000.2-9-2013, 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).

16. OTHER INFORMATION

HMIS Hazard Rating:  
Health: 1  
Fire: 3  
Reactivity: 0

Revised Date: 3 OCTOBER 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.