SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: OnSpec® Tabbing Flux GS-3434
SDS Number: SDS-4683
Revised Date: 22 JUNE 2018
Product Use: Industrial Use - Solder Flux

MANUFACTURER:

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

In Europe:
The Indium Corporation of America® (European Operations)
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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

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

http://www.indium.com
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):

H225  Highly Flammable liquid and vapor
H319  Causes serious eye 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
P242  Use spark resistant 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
P280  Wear protective gloves/protective clothing/eye protection/face protection
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
- Serious eye damage/eye irritant - Category 2
- Specific target organ systemic 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. Irritating to digestive tract.

Inhalation: Vapor may cause headaches and or dizziness. Avoid inhalation of vapors. Irritating to respiratory tract.

Skin Contact: Prolonged contact may cause irritation and dermatitis.

Chronic: Over exposure to vapors may be harmful. 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
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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<td>PROPRIETARY</td>
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<td>-</td>
<td>N.E.</td>
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</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:** 12°C (54°F)  
**Method:** Closed Cup

**Auto-ignition Temperature:** 750 F

**Flammable Limits:** Upper: 12 @ 77°F; Lower 2 @ 77°F

**Extinguishing Media:** Water. 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: Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment. Ground containers.

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. Overall general exhaust ventilation Recommended in order to keep exposures to as low as possible.

Personal protection:
Eyes: Chemical safety glasses/goggles. Face shield for splash hazard.
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. Use respiratory protection in confined areas. Air purifying respirators will offer no protection in oxygen deficient areas. Ensure that the protection factors of the respirator are not exceeded.
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

Appearance: Colorless
Boiling Point: 80°C (175°F)
Odor: Alcohol odor.
Evaporation Rate: 1.7
Specific Gravity: 0.833 +/- 0.003 @ 60°F
pH: 4.0
Vapor Pressure: 33 mm HG @ 68 F
Solubility in Water: Soluble
Vapor Density: 2.1 (air=1)
% Volatiles by volume: 90

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

This section is subject to future development. Product not tested.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Dispose of in accordance with all Federal, State and Local environmental regulations.

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements. Flammable.
UN1219, 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).

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 1,4 dioxane] which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov
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

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<tr>
<th>HMIS Hazard Rating:</th>
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<tr>
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<td>Physical Hazard:</td>
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**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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