



## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** 42-SS

**SDS Number:** SDS-HG4101

**Revised Date:** 26 MARCH 2018

**Product Use:** Industrial Use - Solder Flux

#### MANUFACTURER:

##### In America:

**The Indium Corporation of America®.**

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Indium Corporation of America

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Information: +65 6268-8678

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**CHEMTREC 24 hrs.**

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Suchun Industrial Square

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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: Warning

#### Hazard statement(s)

H303      May be harmful if swallowed  
 H314      Causes severe skin burns and eye damage  
 H318      Causes serious 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 + P311      IF SWALLOWED: Call POISON CENTER or doctor/physician  
 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

Acute toxicity, oral – Category 5  
 Skin corrosion (Category 1B)  
 Serious eye damage (Category 1)  
 Specific target organ toxicity-single exposure-Category 3-respiratory system

### POTENTIAL HEALTH EFFECTS:

- Eye Contact:**      Vapors may be irritating, liquid may cause irritation or damage to eye tissue.
- Ingestion:**      Liquid is corrosive and if swallowed is capable of causing burns to the mouth, throat and esophagus. May cause gastric disturbances such as nausea and vomiting.
- Inhalation:**      May cause irritation. High concentrations could cause damage to respiratory system.
- Skin Contact:**      May cause irritation, or chemical burns.
- Chronic:**          Not established.

**NOTE:**              The Indium Corporation does not recommend, manufacture, market or endorse any of it's products for human consumption.



**WARNING:** This product can expose you to chemicals including [trace levels of ethylene oxide] which is known to the State of California to cause cancer and/or birth defects (or other reproductive harm). For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Components	% wt	CAS Registry #	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
WATER	40-45		N.E.	N.E.	N.E.
PROPRIETARY	05-10		N.E.	N.E.	N.E.
HYDROCHLORIC ACID	20-25	7647-01-0(US)	N.E.	N.E.	7(ceiling)
		(EU)	-	2	8
		(Canada)	-	-	7.5(ceiling)
		(Singapore)	-	-	7.5
		(Mexico)	-	-	7
		(China)	-	-	7.5(max)
ZINC CHLORIDE	25-30	7646-85-7(US)	1(fume)	1	2
		(EU)	-	1	2
		(Canada)	-	1(fume)	2
		(Singapore)	1(fume)	-	2
		(China)	-	1(fume)	2

N.E. = Not established

**4. FIRST AID MEASURES**

<b>Eye Contact:</b>	Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.
<b>Ingestion:</b>	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.
<b>Inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
<b>Skin Contact:</b>	Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

**5. FIRE FIGHTING MEASURES**

<b>Flash Point:</b>	Not applicable	<b>Method:</b>	Not applicable
<b>Auto-ignition Temperature:</b>	Not available		
<b>Flammable Limits:</b>	Not applicable		
<b>Extinguishing Media:</b>	Use extinguishers appropriate for the surrounding fire conditions.		
<b>Special Fire Fighting Procedures:</b>	Standard fire fighting equipment		

## 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** DO NOT allow material to enter sewer system or waterway. Wear personal protective equipment, such as gloves and depending on the quantity a respirator with acid/fume cartridges may be required. Clean up by absorption or neutralization. Eliminate sources of ignition. Keep unnecessary personnel away. Put clean-up materials in a properly labeled metal drum. 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.

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area away from sources of ignition. 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 limits as low as possible. Must use ventilation during heating of product.

### Personal protection:

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

**Respirator:** An authority 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 acid resistant gloves.

**Other:** Lab coat, eyewash 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

<b>Appearance:</b>	Liquid, light yellow	<b>Boiling Point:</b>	212F
<b>Odor:</b>	Mild	<b>Melting Point:</b>	Not applicable
<b>Specific Gravity:</b>	1.500 @60F	<b>pH:</b>	<1
<b>Vapor Pressure:</b>	0.19 mmHg @68F	<b>Solubility in Water:</b>	Soluble
<b>Vapor Density:</b>	Not determined	<b>Evaporation Rate:</b>	>1

## 10. STABILITY AND REACTIVITY

**General:** Stable.

**Conditions to Avoid:** Direct heat, open flames and storage in aluminum.

**Incompatible Materials:** sulfuric acid, potassium permanganate

**Hazardous Decomposition /** Carbon dioxide/carbon monoxide.

**Combustion:****Hazardous Polymerization:** Will not occur.**11. TOXICOLOGICAL INFORMATION****Carcinogenicity:** NTP: No

OSHA: No

IARC: No

**LD50:** Not established.**LC50:** Not established.**12. ECOLOGICAL INFORMATION**

Product not tested.

Avoid release to environment. Contains zinc chloride which is very toxic to the aquatic environment and may cause long term adverse effects in 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.**14. TRANSPORT INFORMATION**

Transport in accordance with applicable regulations and requirements.

UN3264, Corrosive liquid, Acidic, Inorganic, N.O.S., (hydrochloric acid, zinc chloride), 8, PG III

Label: Corrosive

North American Emergency Guide Book – Guide #154



IMDG: Ocean shipping

**Shipping Name:** UN3264, Corrosive liquid, Acidic, Inorganic, N.O.S., (hydrochloric acid, zinc chloride), 8, PG III  
Marine Pollutant (zinc chloride)



Marine Pollutant: Yes

## 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.).



**WARNING:** This product can expose you to chemicals including [trace levels of ethylene oxide] which is known to the State of California to cause cancer and/or birth defects (or other reproductive harm). For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

SARA 313 Listing - 40 CFR 372.65: hydrochloric acid (acid aerosol form only), zinc chloride (zinc), ethylene oxide).

All ingredients are listed on the EPA TSCA Inventory.

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).



WHMIS: Class E Corrosive

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 in accordance with Mexican regulations NOM-0180STPS-2015 and NOM-010-STPS-2014.

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).

Regulatory Information China:

GB/T 16483-2008, GB/T 17519-2013, Safety Data Sheets for Chemical Products

GB 30000.2-29-2013, Rules for classification and labeling of chemicals (GHS)

Decree No. 591: Regulations on the Control Over Safety of Hazardous Chemicals.

This product has been classified using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2007.

**16. OTHER INFORMATION**

<b>HMIS Hazard Rating:</b>	<b>Health:</b>	2
	<b>Fire:</b>	0
	<b>Reactivity:</b>	0

**Revised Date:** 26 MARCH 2018

**Prepared by:** Nancy Swarts, Indium Corporation of America

**Approved by:** Nancy Swarts, Indium Corporation of America

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