SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: INDIUM NITRATE SOLUTION (Not solid form)

SDS NUMBER: SDS-4092

PRODUCT : Industrial Use - InN₃O₉ x H₂O  Molecular weight: 300.83g/mol

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) 
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

EMERGENCY PHONE:
CHEMTREC 24 hrs.
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

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)
H272  May intensify fire; oxidizer
H302  Harmful if swallowed
H312  Harmful in contact with skin
H332  Harmful if inhaled

Precautionary statement(s)
P210  Keep away from heat
P220  Keep/Store away from clothing/combustible materials
P221  Take any precaution to avoid mixing with combustibles
P233  Keep container tightly closed
P261  Avoid breathing dust/fume/gas/mist/vapors/spray
P264  Wash skin thoroughly after handling
P270  Do not eat, drink or smoke when using this product
P271  Use only outdoors or in well –ventilated area
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)
P363  Wash contaminated clothing before reuse
P370 +P378  In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
P501  Dispose of contents/container by recycling if possible otherwise dispose of via approved handler.

Classification:
Oxidizing (Category 2)
Acute toxicity, Oral (Category 4)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)

POTENTIAL HEALTH EFFECTS:
Eye Contact: Causes severe irritation and possible burns.
Ingestion: Harmful if swallowed. May cause burns to the gastrointestinal tract. Kidney and liver damage from injected indium compounds has been reported based on limited animal testing.
Inhalation: May cause respiratory irritation or harm. Severe exposure could cause pulmonary damage.
Skin Contact: Causes severe skin irritation or harm.
Chronic: Indium may cause damage to respiratory system. Kidney and liver damage from injection of indium compounds has been reported based on limited animal testing.
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 impurities: listed metals] which is known to the State of California to cause cancer, and birth defects or other reproductive harm. 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>
</tr>
</thead>
<tbody>
<tr>
<td>INDIUM NITRATE SOLUTION</td>
<td>100</td>
<td>13770-61-1/237-393-5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(US) 0.1(as Indium) 0.1 -
(EU) - 0.1(as Indium) 0.3
(Canada) - 0.1(as Indium) 0.3
(Singapore) 0.1(as indium) - -
(Mexico) - 0.1(as indium) 0.3
(China) - 0.1(as indium) 0.3

N.E. = Not established

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: Not established. Method: Not established.
Auto-ignition Temperature: Not established.
Flammable Limits: Limits not established, not flammable. However, dust or powder may be combustible and an oxidizer.
Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Water spray.
Special Fire Fighting Procedures: Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.
6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: For Liquids: Isolate spill and remove with absorbent or neutralize. Place material in proper container. Avoid conditions which create fumes or fine dust. Wear personal protective equipment. Keep unauthorized people away.

7. HANDLING AND STORAGE

Handling: Use good housekeeping practices to prevent accumulation of dust (solid material).
Precautions: Keep dust away from sources of ignition. Liquid material should be stored away from base chemicals. Wear personal protective clothing when handling material.
Storage Precautions: Store product in a cool, dry, ventilated area away from incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation is recommended.
Personal protection:
Eyes: Chemical safety glasses/goggles. Face shield should be used if there is a splash hazard.
Respirator: A NIOSH approved or EU compliant CE marked air-purifying respirator with an acid gas/particulate/fume cartridge may be necessary if contaminants are elevated.
Skin: Rubber or chemical resistant gloves.
Other: Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas.
Work/Hygienic: Maintain good housekeeping. Clean up spills immediately. Wash hands thoroughly with soap and water immediately upon leaving the work area. Refrain from eating or smoking in work areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Decomposes</td>
</tr>
<tr>
<td>Odor:</td>
<td>nitric acid odor</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>Not established</td>
</tr>
<tr>
<td>pH:</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>(air=1) Not applicable.</td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>Not available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: An oxidizer which may enhance fire.
Incompatible Materials: Strong reducing agents, strong acids.
Hazardous Decomposition / Combustion: Emits NOx gases when heated to decomposition.
Hazardous Polymerization: Will not occur.
11. TOXICOLOGICAL INFORMATION

Carcinogenicity Listing:
- National Testing Program (NTP): No
- Occupational Safety & Health Administration (OSHA): No
- U.N. International Agency for Research on Cancer (IARC): No

LD50: No information available

Other: Chronic Toxicity: Overexposure to fumes may cause respiratory tract irritation.

Irritancy of Product: Irritant
Mutagenicity: Not established
Sensitization to Product: Not established
Teratogenicity: Not established
Reproductive Toxicity: Not established
Synergistic Products: Not established

RTEC# NL1750000
LD50 Oral-mouse-3,300 mg/kg
Reproductive toxicity-hamster-intravenous
Effects on Fertility: Post-implantation mortality

Developmental toxicity-hamster-intravenous
Specific developmental abnormalities: musculoskeletal system
Developmental toxicity – hamster-intravenous
Effects on Embryo or fetus: fetal death

12. ECOLOGICAL INFORMATION

No data available.

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.

UN 3218, Nitrates, Inorganic, Aqueous Solution, N.O.S., 5.1, PG III

North America Emergency Guide Book - Guide #140
Marine Pollutant: No
PIH: No

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 guidelines set by the Dept of Industrial Health of the Republic of Singapore.

**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 Exposure Limit of Hazardous Agents in the Workplace, GBZ2-2007.

This product has been classified in accordance with 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 EPA TSCA Inventory.

⚠️ **Warning:** This product can expose you to chemicals including [Trace impurities: listed metals] which is known to the State of California to cause cancer, and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Ingredients are listed on the Canadian Domestic Substance List.

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**16. OTHER INFORMATION**

**HMIS Hazard Rating:**

- Health: 2
- Fire: 0
- Reactivity: 2
- Special hazard: OX

**Revised Date:** 19 NOVEMBER 2018

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

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

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