

# Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/01/2009

Reviewed on 07/17/2007

## 1 Identification of substance:

### Product details:

**Product name:** Indium(III) chloride hydrate

**Stock number:** 11859

### Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company  
Johnson Matthey Catalog Company, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Emergency Phone: (978) 521-6300  
CHEMTREC: (800) 424-9300  
Web Site: [www.alfa.com](http://www.alfa.com)

**Information Department:** Health, Safety and Environmental Department

### Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

## 2 Composition/Data on components:

### Chemical characterization:

**Description:** (CAS#)

Indium(III) chloride hydrate (CAS# 143983-91-9 ): 100%

**Identification number(s):**

**EINECS Number:** 233-043-0

**Additional information:** CAS# for anhydrous form:: 10025-82-8

## 3 Hazards identification

### Hazard description:



C Corrosive

### Information pertaining to particular dangers for man and environment

R 22 Harmful if swallowed.

R 34 Causes burns.

### Classification system

**HMIS ratings (scale 0-4)**

(Hazardous Materials Identification System)

HEALTH	3
FIRE	0
REACTIVITY	1

Health (acute effects) = 3

Flammability = 0

Reactivity = 1

### GHS label elements



Danger

3.1/3 - Toxic if swallowed.



Danger

3.2/1B - Causes severe skin burns and eye damage.

### Prevention:

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/protective clothing/eye protection/face protection.

### Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Specific treatment (see label).

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**Product name:** Indium(III) chloride hydrate

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Rinse mouth.

Wash contaminated clothing before reuse.

**Storage:**

Store locked up.

**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

### 4 First aid measures

**General information** Immediately remove any clothing soiled by the product.**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek immediate medical advice.

### 5 Fire fighting measures

**Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

**Special hazards caused by the material, its products of combustion or resulting gases:**

In case of fire, the following can be released:

Metal oxide fume

Hydrogen chloride (HCl)

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6 Accidental release measures

**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

**Measures for cleaning/collecting:**

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

**Handling****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:** The product is not flammable**Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Store away from strong bases.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

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## 8 Exposure controls and personal protection

### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

### Components with limit values that require monitoring at the workplace:

Indium and compounds

	mg/m3
ACGIH TLV	0.1(In)
Belgium TWA	0.1
Denmark TWA	0.1(In)
Finland TWA	0.1
Netherlands MAC-TGG	0.1
Norway TWA	0.1
Switzerland MAK-W	0.1
United Kingdom TWA	0.1(In); 0.3(In)-STEL
OSHA PEL TWA	0.1

Additional information: No data

### Personal protective equipment

#### General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

#### Protection of hands:

Check protective gloves prior to each use for their proper condition.

Impervious gloves

#### Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

#### Eye protection:

Safety glasses

Tightly sealed goggles

Full face protection

**Body protection:** Protective work clothing.

## 9 Physical and chemical properties:

### General Information

<b>Form:</b>	Crystalline
<b>Color:</b>	White
<b>Odor:</b>	Odorless

### Change in condition

<b>Melting point/Melting range:</b>	Not determined
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined

**Flash point:** Not applicable

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Danger of explosion:** Product does not present an explosion hazard.

### Explosion limits:

<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined

**Vapor pressure:** Not determined

**Density:** Not determined

### Solubility in / Miscibility with

**Water:** Soluble

## 10 Stability and reactivity

### Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

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**Product name:** Indium(III) chloride hydrate

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**Materials to be avoided:**

Bases

Oxidizing agents

**Dangerous reactions** No dangerous reactions known**Dangerous products of decomposition:**

Metal oxide fume

Hydrogen chloride (HCl)

## 11 Toxicological information

**Acute toxicity:****Primary irritant effect:****on the skin:** Corrosive effect on skin and mucous membranes.**on the eye:** Strong corrosive effect.**Sensitization:** No sensitizing effects known.**Other information (about experimental toxicology):**

Reproductive effects have been observed on tests with laboratory animals.

**Subacute to chronic toxicity:**

Exposure to indium compounds may cause pain in the joints and bones, tooth decay, nervous and gastrointestinal disorders, heart pain and general debility. Experiments with animals also indicate that indium may cause reduced food and water consumption with weight loss, pulmonary edema, pneumonia, blood, liver and kidney damage, leg paralysis and damage to the brain, heart, adrenals and spleen.

**Subacute to chronic toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Kidney, Ureter, Bladder - changes in tubules (including acute renal failure, acute tubular necrosis).

Behavioral - food intake (animal).

Brain and Coverings - changes in brain weight.

Gastrointestinal - changes in pancreatic weight.

Liver - changes in liver weight.

Related to Chronic Data - death.

Reproductive - Maternal Effects - other effects.

Reproductive - Fertility - post-implantation mortality (e.g. dead/or resorbed implants per total number of implants).

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus).

Reproductive - Specific Developmental Abnormalities - other developmental abnormalities.

Reproductive - Specific Developmental Abnormalities - musculoskeletal system.

Reproductive - Specific Developmental Abnormalities - urogenital system.

Reproductive - Effects on Newborn - live birth index (measured after birth)

Reproductive - Effects on Embryo or Fetus - fetal death.

Reproductive - Effects on Embryo or Fetus - extra-embryonic structures (e.g., placenta, umbilical cord)

Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue).

Reproductive - Fertility - abortion.

**Subacute to chronic toxicity:**

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss.

Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

**Additional toxicological information:**  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Possible risk of impaired fertility.

Possible risk of harm to the unborn child.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

## 12 Ecological information:

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

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## 13 Disposal considerations

**Product:**
**Recommendation** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**
**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

**DOT regulations:**


**Hazard class:** 8  
**Identification number:** UN3260  
**Packing group:** II  
**Proper shipping name (technical name):** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 (Indium(III) chloride hydrate)  
**Label** 8

**Land transport ADR/RID (cross-border)**


**ADR/RID class:** 8 (C2) Corrosive substances  
**Danger code (Kemler):** 80  
**UN-Number:** 3260  
**Packaging group:** II  
**Description of goods:** 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 (Indium(III) chloride hydrate)

**Maritime transport IMDG:**


**IMDG Class:** 8  
**UN Number:** 3260  
**Label** 8  
**Packaging group:** II  
**Proper shipping name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 (Indium(III) chloride hydrate)

**Air transport ICAO-TI and IATA-DGR:**


**ICAO/IATA Class:** 8  
**UN/ID Number:** 3260  
**Label** 8  
**Packaging group:** II  
**Proper shipping name:** CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.  
 (Indium(III) chloride hydrate)

**UN "Model Regulation":** UN3260, CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S., 8, II

## 15 Regulations

**Product related hazard informations:**
**Hazard symbols:**

C Corrosive

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**Product name:** Indium(III) chloride hydrate

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**Risk phrases:**

22 Harmful if swallowed.  
34 Causes burns.

**Safety phrases:**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
45 In case of accident or if you feel unwell, seek medical advice immediately.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.  
All components of this product are listed on the Canadian Domestic Substances List (DSL).

**Information about limitation of use:** For use only by technically qualified individuals.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.

**Contact:** Zachariah Holt

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
HMIS: Hazardous Materials Identification System (USA)

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