



## SAFETY DATA SHEET INDIUM

### 1. Identification

#### Product identifier

**Product name**                      INDIUM

**Product number**                      5451

#### Recommended use of the chemical and restrictions on use

**Application**                              Industrial Use

#### Details of the supplier of the safety data sheet

**Supplier**                                  SIFCO Applied Surface Concepts  
5708 E. Schaaf Road  
Independence, Ohio 44131  
U.S.A.  
Tel.: +1 216-524-0099  
Fax: +1 216-524-6331  
E-Mail: info@sifcoasc.com

#### Emergency telephone number

**Emergency telephone**                      CHEMTREC (United States) (800) 424-9300; CHEMTREC (International) +1 703-527-3887

### 2. Hazard(s) identification

#### Classification of the substance or mixture

**Physical hazards**                              Not Classified

**Health hazards**                              Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Resp. Sens. 1 - H334 Skin Sens. 1 - H317

**Environmental hazards**                      Not Classified

#### Label elements

##### Pictogram



##### Signal word

Danger

##### Hazard statements

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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<b>Precautionary statements</b>	P270 Do not eat, drink or smoke when using this product.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P284 [In case of inadequate ventilation] wear respiratory protection.
	P302+P352 If on skin: Wash with plenty of water.
	P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
	P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P501 Dispose of contents/ container in accordance with national regulations.
	P260 Do not breathe vapors.
	P264 Wash skin thoroughly after handling.
	P301+P310 If swallowed: Immediately call a poison center/ doctor.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.	

**Contains** ETHYLENEDIAMINE, INDIUM HYDROXIDE

## Other hazards

This product does not contain any substances classified as PBT or vPvB.

### 3. Composition/information on ingredients

#### Mixtures

<b>TARTARIC ACID</b>	<b>25-30%</b>
CAS number: 87-69-4	
<b>Classification</b>	
Acute Tox. 4 - H302	
Eye Irrit. 2A - H319	
<b>ETHYLENEDIAMINE</b>	<b>15-20%</b>
CAS number: 107-15-3	
<b>Classification</b>	
Flam. Liq. 3 - H226	
Acute Tox. 4 - H302	
Acute Tox. 4 - H312	
Skin Corr. 1B - H314	
Eye Dam. 1 - H318	
Resp. Sens. 1 - H334	
Skin Sens. 1 - H317	
<b>INDIUM HYDROXIDE</b>	<b>10-15%</b>
CAS number: 20661-21-6	
<b>Classification</b>	
Skin Irrit. 2 - H315	
Eye Irrit. 2A - H319	
STOT SE 3 - H335	

The full text for all hazard statements is displayed in Section 16.

### 4. First-aid measures

#### Description of first aid measures

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<b>Inhalation</b>	Move affected person to fresh air at once. Get medical attention.
<b>Ingestion</b>	Get medical attention immediately. Do not induce vomiting.
<b>Skin Contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes and get medical attention.
<b>Eye contact</b>	Remove affected person from source of contamination. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

## Most important symptoms and effects, both acute and delayed

<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing, chest tightness, feeling of chest pressure.
<b>Ingestion</b>	Harmful: danger of serious damage to health by prolonged exposure if swallowed. May cause chemical burns in mouth and throat. May cause stomach pain or vomiting.
<b>Skin contact</b>	May cause serious chemical burns to the skin. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes severe burns. May cause serious eye damage.

## Indication of immediate medical attention and special treatment needed

<b>Notes for the doctor</b>	No specific recommendations.
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## 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

### Special hazards arising from the substance or mixture

**Specific hazards** Corrosive gases or vapors.

### Advice for firefighters

**Protective actions during firefighting** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

**Special protective equipment for firefighters** Use protective equipment appropriate for surrounding materials.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapors. Provide adequate general and local exhaust ventilation.

### Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

**Methods for cleaning up** Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Collect and dispose of spillage as indicated in Section 13. Wash thoroughly after dealing with a spillage.

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

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### 7. Handling and storage

#### Precautions for safe handling

**Usage precautions** Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapors and spray/mists. Provide adequate general and local exhaust ventilation.

#### Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from freezing and direct sunlight.

**Storage class** Corrosive storage.

#### Specific end uses(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.

### 8. Exposure Controls/personal protection

#### Control parameters

#### Occupational exposure limits

#### **ETHYLENEDIAMINE**

Long-term exposure limit (8-hour TWA): OSHA 10 ppm 25 mg/m<sup>3</sup>

OSHA = Occupational Safety and Health Administration.

#### Exposure controls

#### Protective equipment



#### **Appropriate engineering controls**

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist.

#### **Eye/face protection**

Tight-fitting safety glasses.

#### **Hand protection**

It is recommended that chemical-resistant, impervious gloves are worn. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. It is recommended that gloves are made of the following material: Nitrile rubber.

#### **Other skin and body protection**

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

#### **Hygiene measures**

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

#### **Respiratory protection**

If ventilation is inadequate, suitable respiratory protection must be worn. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

### 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

#### **Appearance**

Liquid.

#### **Color**

Yellow.

#### **Odor**

No characteristic odor.

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<b>pH</b>	pH (concentrated solution): 8.8-9.4
<b>Relative density</b>	1.23-1.254 @ 20°C
<b>Other information</b>	Not available.

### 10. Stability and reactivity

<b>Reactivity</b>	There are no known reactivity hazards associated with this product.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended.
<b>Possibility of hazardous reactions</b>	Not determined.
<b>Conditions to avoid</b>	Avoid excessive heat for prolonged periods of time.
<b>Materials to avoid</b>	Strong acids.
<b>Hazardous decomposition products</b>	None at ambient temperatures.

### 11. Toxicological information

#### Information on toxicological effects

##### Acute toxicity - oral

**ATE oral (mg/kg)** 1,061.57

##### Acute toxicity - dermal

**ATE dermal (mg/kg)** 5,913.98

<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitisation by inhalation. May cause respiratory system irritation.
<b>Ingestion</b>	Harmful if swallowed. May cause chemical burns in mouth and throat. May cause stomach pain or vomiting.
<b>Skin Contact</b>	Causes severe burns. May cause an allergic skin reaction. May cause sensitisation by skin contact.
<b>Eye contact</b>	Causes burns. Risk of serious damage to eyes.
<b>Acute and chronic health hazards</b>	May cause burns in mucous membranes, throat, esophagus and stomach.
<b>Route of entry</b>	Inhalation Ingestion. Skin and/or eye contact

#### Toxicological information on ingredients.

#### TARTARIC ACID

##### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 485.0

**Species** Mouse

**ATE oral (mg/kg)** 500.0

**INDIUM****ETHYLENEDIAMINE****Acute toxicity - oral**

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 1,200.0

**Species** Rat

**ATE oral (mg/kg)** 500.0

**Acute toxicity - dermal**

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 560.0

**Species** Rabbit

**ATE dermal (mg/kg)** 1,100.0

**Acute toxicity - inhalation**

**Acute toxicity inhalation (LC<sub>50</sub> dust/mist mg/l)** 14.7

**Species** Rat

**ATE inhalation (vapours mg/l)** 11.0

**12. Ecological Information**

**Ecotoxicity** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity** No data available.

**Ecological information on ingredients.****ETHYLENEDIAMINE**

**Acute toxicity - fish** , 96 hour: 115.7 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** , 48 hour: 3 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** , 96 hour: 151 mg/l, Pseudokirchneriella subcapitata

**Persistence and degradability**

**Persistence and degradability** No data available.

**Ecological information on ingredients.****ETHYLENEDIAMINE**

**Biodegradation** - 94: ~ 28 days

**Bioaccumulative potential**

**Bio-Accumulative Potential** The product does not contain any substances expected to be bioaccumulating.

**Mobility in soil**

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**Mobility** The product is soluble in water.

**Other adverse effects**

**Other adverse effects** Not determined.

### 13. Disposal considerations

**Waste treatment methods**

**General information** Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 14. Transport information

**UN Number**

**UN No. (TDG)** 1760

**UN No. (IMDG)** 1760

**UN No. (ICAO)** 1760

**UN No. (DOT)** 1760

**UN proper shipping name**

**Proper shipping name (TDG)** CORROSIVE LIQUID, N.O.S. (CONTAINS ETHYLENEDIAMINE)

**Proper shipping name (IMDG)** CORROSIVE LIQUID, N.O.S. (CONTAINS ETHYLENEDIAMINE)

**Proper shipping name (ICAO)** CORROSIVE LIQUID, N.O.S. (CONTAINS ETHYLENEDIAMINE)

**Proper shipping name (DOT)** CORROSIVE LIQUID, N.O.S.

**Transport hazard class(es)**

**TDG class** 8

**TDG label(s)** 8

**IMDG Class** 8

**ICAO class/division** 8

**Transport labels**



**Packing group**

**TDG Packing Group** II

**IMDG packing group** II

**ICAO packing group** II

**DOT packing group** III

**Environmental hazards**

**Environmentally Hazardous Substance**

No.

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## Special precautions for user

**EmS** F-A, S-B

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

### US Federal Regulations

#### **SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

Ethylenediamine  
10,000 lbs

#### **CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

Ethylenediamine  
Final CERCLA RQ: 5,000 lbs

#### **SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

Ethylenediamine  
EPCRA RQ: 5,000 lbs

#### **SARA 313 Emission Reporting**

Exempt.

#### **CAA Accidental Release Prevention**

Ethylenediamine  
Threshold Quantity: 20,000 lbs

#### **SARA (311/312) Hazard Categories**

Acute  
Chronic

#### **OSHA Highly Hazardous Chemicals**

Exempt.

### US State Regulations

#### **California Proposition 65 Carcinogens and Reproductive Toxins**

Exempt.

#### **California Directors List of Hazardous Substances**

Exempt.

### Inventories

#### **US - TSCA**

All ingredients are present.

## 16. Other information



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<b>Classification abbreviations and acronyms</b>	Acute Tox. = Acute toxicity Carc. = Carcinogenicity Eye Dam. = Serious eye damage Eye Irrit. = Eye irritation Flam. Liq. = Flammable liquid Muta. = Germ cell mutagenicity Resp. Sens. = Respiratory sensitisation Skin Corr. = Skin corrosion Skin Irrit. = Skin irritation Skin Sens. = Skin sensitisation STOT RE = Specific target organ toxicity-repeated exposure STOT SE = Specific target organ toxicity-single exposure
<b>Revision date</b>	11/12/2017
<b>Revision</b>	3
<b>Hazard statements in full</b>	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation.
<b>NFPA - instability hazard</b>	Normally stable. (0)
<b>NFPA - health hazard</b>	Extremely hazardous, serious injury. (3)
<b>NFPA - flammability hazard</b>	Will not burn. (0)

The Information in this data sheet is believed to be correct but neither we nor our employees or agents give any warranty or make any representation to the accuracy thereof and accept no liability for any loss, injury or damage which may result in it's use. The sole purpose of this data sheet is to provide guidance on the safe handling and use of the products to which it relates. It does not form part of any product specification nor part of any contract. It is not practical for the guidance and information in this data sheet to cover every conceivable application of a product and as we may not be aware of the use to which the products covered by this data sheet are to be put it remains the responsibility of the user to conduct it's own tests and to satisfy itself as to the suitability of the product.