



# SAFETY DATA SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<b>Name of the substance</b>	Indium pieces
<b>Identification number</b>	231-180-0 (EC number)
<b>Registration number</b>	-
<b>Document number</b>	1KQ
<b>Synonyms</b>	INDIUM POWDER * Indium and its inorganic compounds (as In) * INDIUM (POWDER) * INDIUM, POWDER, DUST AND COMPOUNDS, AS IN
<b>Materion Code</b>	MKE-I-0005/6
<b>Issue date</b>	20-August-2013
<b>Revision date</b>	11-January-2018

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

#### Supplier

<b>Company name</b>	Materion Advanced Chemicals Inc.
<b>Address</b>	407 N. 13th Street 1316 W. St. Paul Avenue Milwaukee, WI 53233 United States
<b>Division</b>	Milwaukee
<b>Telephone</b>	414.212.0257
<b>e-mail</b>	advancedmaterials@materion.com
<b>Contact person</b>	Laura Hamilton

### 1.4. Emergency telephone number

<b>Supersedes date</b>	14-July-2015
<b>Version number</b>	04

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

<b>Identified uses</b>	Not available.
<b>Uses advised against</b>	None known.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to Regulation (EC) No 1272/2008 as amended

This substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

<b>Hazard summary</b>	May be ignited by heat, sparks or flames. May be harmful if swallowed. Causes damage to organs through prolonged or repeated exposure. Causes eye irritation.
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### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Indium

#### Hazard pictograms



**Signal word** Danger

#### Hazard statements

H303	May be harmful if swallowed.
H320	Causes eye irritation.
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure

#### Precautionary statements

##### Prevention

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/eye protection/face protection.

#### Response

P337 + P313 If eye irritation persists: Get medical advice/attention.

#### Storage

Store away from incompatible materials.

#### Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Supplemental label information

None.

#### 2.3. Other hazards

The Safety Information Sheet Chemicals of hazardous chemical can be obtained through phone, email or on the company website.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

##### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Indium	100	7440-74-6 231-180-0	-	-	
<b>Classification:</b>	STOT RE 1;H372				

#### List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Community workplace exposure limit(s).

### SECTION 4: First aid measures

#### General information

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 4.1. Description of first aid measures

##### Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

##### Skin contact

Get medical attention if irritation develops and persists.

##### Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

##### Ingestion

Rinse mouth. Call a POISON CENTRE or doctor/physician if you feel unwell.

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

Irritation of eyes and mucous membranes. Coughing. Discomfort in the chest. Shortness of breath. Prolonged exposure may cause chronic effects.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Symptoms may be delayed.

### SECTION 5: Firefighting measures

#### General fire hazards

Flammable solid. No unusual fire or explosion hazards noted.

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

##### Unsuitable extinguishing media

None known.

## 5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

## 5.3. Advice for firefighters

### Special protective equipment for firefighters

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

### Special firefighting procedures

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

#### For emergency responders

Keep unnecessary personnel away.

### 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. The product is immiscible with water and will spread on the water surface. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

### 6.4. Reference to other sections

Not available.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. All equipment used when handling the product must be grounded. Use explosion-proof equipment. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

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

Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers.

### 7.3. Specific end use(s)

Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

#### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Material	Type	Value	Form
Indium (CAS 7440-74-6)	MAK	0,1 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	0,2 mg/m <sup>3</sup>	Inhalable fraction.

#### Belgium. Exposure Limit Values.

Material	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>

#### Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Material	Type	Value
Indium (CAS 7440-74-6)	MAC	0,1 mg/m <sup>3</sup>
	STEL	0,3 mg/m <sup>3</sup>

#### Denmark. Exposure Limit Values

Material	Type	Value	Form
Indium (CAS 7440-74-6)	TLV	0,1 mg/m <sup>3</sup>	Dust.

**Finland. Workplace Exposure Limits**

Material	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>

**Greece. OELs (Decree No. 90/1999, as amended)**

Material	Type	Value
Indium (CAS 7440-74-6)	STEL	1 mg/m <sup>3</sup>
	TWA	1 mg/m <sup>3</sup>

**Iceland. OELs. Regulation 154/1999 on occupational exposure limits**

Material	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>	Dust.

**Ireland. Occupational Exposure Limits**

Material	Type	Value
Indium (CAS 7440-74-6)	STEL	0,3 mg/m <sup>3</sup>
	TWA	0,1 mg/m <sup>3</sup>

**Italy. Occupational Exposure Limits**

Material	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements**

Material	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>

**Norway. Administrative Norms for Contaminants in the Workplace**

Material	Type	Value
Indium (CAS 7440-74-6)	TLV	0,1 mg/m <sup>3</sup>

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

Material	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>

**Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)**

Material	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>	Inhalable fraction.

**Spain. Occupational Exposure Limits**

Material	Type	Value
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>

**Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)**

Material	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>	Total dust.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Material	Type	Value	Form
Indium (CAS 7440-74-6)	TWA	0,1 mg/m <sup>3</sup>	Inhalable dust.

**UK. EH40 Workplace Exposure Limits (WELs)**

Material	Type	Value
Indium (CAS 7440-74-6)	STEL	0,3 mg/m <sup>3</sup>
		0 ppm
	TWA	0,1 mg/m <sup>3</sup>

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

## 8.2. Exposure controls

### Appropriate engineering controls

Ventilate as needed to control airborne dust. Use explosion-proof ventilation equipment if airborne dust levels are high. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

### Individual protection measures, such as personal protective equipment

**General information** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear safety glasses with side shields (or goggles).

#### Skin protection

**- Hand protection** Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

**- Other** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

### Hygiene measures

When using, do not eat, drink or smoke. Do not get in eyes. Wash hands before breaks and immediately after handling the product.

### Environmental exposure controls

Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

**Physical state** Solid.

**Form** Solid.

**Colour** Not available.

**Odour** Not available.

**Odour threshold** Not available.

**pH** Not available.

**Melting point/freezing point** 156,6 °C (313,88 °F)

**Initial boiling point and boiling range** 2072 °C (3761,6 °F)

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Flammable solid.

#### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Vapour pressure** < 0,0000001 kPa at 25 °C

**Vapour density** Not available.

**Relative density** Not available.

#### Solubility(ies)

**Solubility (water)** Insoluble

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

## 9.2. Other information

Density	7,31 g/cm <sup>3</sup> at 20 °C
Molecular formula	In
Molecular weight	114,82 g/mol
Specific gravity	7,31

## SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Risk of ignition.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Heat, flames and sparks. High temperatures. Contact with incompatible materials.
10.5. Incompatible materials	None known.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Due to lack of data the classification is not possible.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May be harmful if swallowed.

**Symptoms** Coughing. Discomfort in the chest. Shortness of breath.

### 11.1. Information on toxicological effects

Acute toxicity	May be harmful if swallowed.
Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation	Causes eye irritation.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)</b>	
Not listed.	
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Causes damage to organs ( ) through prolonged or repeated exposure.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	This product has no known adverse effect on human health.

## SECTION 12: Ecological information

12.1. Toxicity	The product is 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.
12.2. Persistence and degradability	No data is available on the degradability of this product.
12.3. Bioaccumulative potential	No data available.
Partition coefficient n-octanol/water (log K <sub>ow</sub> )	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	No data available.

<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

##### **Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

##### **Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

##### **Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

##### **Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

##### **Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

##### **Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

##### **Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

##### **Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorisations

##### **Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

**Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

**Other regulations**

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. The product does not need to be labelled in accordance with EC directives or respective national laws.

**National regulations**

Follow national regulation for work with chemical agents.

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

**List of abbreviations**

Not available.

**References**

ACGIH  
EPA: AQUIRE database  
NLM: Hazardous Substances Data Base  
US. IARC Monographs on Occupational Exposures to Chemical Agents

**Training information**

Follow training instructions when handling this material.

**Disclaimer**

Additional information is given in the Material Safety Data Sheet. Materion Advanced Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.