



# SAFETY DATA SHEET

**MATERION**

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

### 1.1. Product identifier

Trade name or designation of the mixture	Cadmium stannate (Cd <sub>2</sub> SnO <sub>4</sub> )
Synonyms	None.
Document number	2JD
Materion Code	2JD
Issue date	04-December-2018
Version number	01

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

Identified uses	The chemical(s) listed herein is not found on the Toxic Substance Control Act chemical substance inventory. This chemical may not be used for commercial purposes. This chemical may be used for research and development purposes only as defined at 40 CFR 710.2(y).
Uses advised against	None known.

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

#### Supplier

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

### 1.4. Emergency telephone number

## 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.

#### Health hazards

Acute toxicity, oral	Category 3
Acute toxicity, inhalation	Category 2
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Reproductive toxicity (fertility, the unborn child)	Category 2
Specific target organ toxicity - repeated exposure	Category 1

#### Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1

#### Hazard summary

The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

### 2.2. Label elements

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

Contains:	Cadmium
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<b>Hazard pictograms</b>	None.
<b>Signal word</b>	None.
<b>Hazard statements</b>	The substance does not meet the criteria for classification.

#### Precautionary statements

<b>Prevention</b>	Observe good industrial hygiene practices.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of waste and residues in accordance with local authority requirements.

**Supplemental label information** 10 % of the mixture consists of component(s) of unknown acute oral toxicity. 100 % of the mixture consists of component(s) of unknown acute dermal toxicity. 10 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 10 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.  
For further information, please contact the Product Stewardship Department at +1.800.862.4118.

**2.3. Other hazards** Not a PBT or vPvB substance or mixture.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Cadmium	10 - 90	7440-43-9 231-152-8	-	048-011-00-X	
<b>Classification:</b>	Acute Tox. 3;H301, Carc. 1A;H350, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				
Tin	90 - 10	7440-31-5 231-141-8	-	-	#
<b>Classification:</b>	-				

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

#: This substance has been assigned Union workplace exposure limit(s).  
M: M-factor  
PBT: persistent, bioaccumulative and toxic substance.  
vPvB: very persistent and very bioaccumulative substance.  
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## SECTION 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 4.1. Description of first aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.

**4.2. Most important symptoms and effects, both acute and delayed** Exposure may cause temporary irritation, redness, or discomfort.

**4.3. Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards** No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

**5.2. Special hazards arising from the substance or mixture** During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

<b>Special protective equipment for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Special firefighting procedures</b>	Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel** Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

**For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**6.2. Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up** Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

**6.4. Reference to other sections** For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Observe good industrial hygiene practices.

**7.2. Conditions for safe storage, including any incompatibilities** Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

**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

Components	Type	Value	Form
Tin (CAS 7440-31-5)	MAK	2 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	4 mg/m <sup>3</sup>	Inhalable fraction.

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

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	STEL	0,06 mg/m <sup>3</sup>	Inhalable fraction.
	TWA	0,015 mg/m <sup>3</sup>	Inhalable fraction.

##### Belgium. Exposure Limit Values.

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m <sup>3</sup>	Inhalable particles.
		0,002 mg/m <sup>3</sup>	Respirable particles.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

##### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m <sup>3</sup>
Tin (CAS 7440-31-5)	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

Components	Type	Value
Cadmium (CAS 7440-43-9)	MAC	0,025 mg/m <sup>3</sup>
Tin (CAS 7440-31-5)	MAC	2 mg/m <sup>3</sup>

##### Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m <sup>3</sup>	Dust.

##### Czech Republic. OELs. Government Decree 361

Components	Type	Value
Cadmium (CAS 7440-43-9)	Ceiling	0,1 mg/m <sup>3</sup>
	TWA	0,05 mg/m <sup>3</sup>
Tin (CAS 7440-31-5)	Ceiling	4 mg/m <sup>3</sup>
	TWA	2 mg/m <sup>3</sup>

##### Denmark. Exposure Limit Values

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TLV	0,005 mg/m <sup>3</sup>	Dust and fume.

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m <sup>3</sup>	Total dust.
		0,01 mg/m <sup>3</sup>	Respirable dust.

**Finland. Workplace Exposure Limits**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,004 mg/m <sup>3</sup>	Respirable.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	VME	0,05 mg/m <sup>3</sup>	

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

Components	Type	Value	Form
Tin (CAS 7440-31-5)	TWA	0,02 mg/m <sup>3</sup>	Vapor and aerosol, inhalable fraction.
		0,004 ppm	Vapor and aerosol, inhalable fraction.

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

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	STEL	0,1 mg/m <sup>3</sup>	
	TWA	0,025 mg/m <sup>3</sup>	
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	Ceiling	0,015 mg/m <sup>3</sup>	
Tin (CAS 7440-31-5)	STEL	8 mg/m <sup>3</sup>	
	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m <sup>3</sup>	Dust and fume.

**Ireland. Occupational Exposure Limits**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,025 mg/m <sup>3</sup>	
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Italy. Occupational Exposure Limits**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m <sup>3</sup>	Respirable fraction.
		0,002 mg/m <sup>3</sup>	
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Latvia. OELs. Occupational exposure limit values of chemical substances in work environment**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	STEL	0,05 mg/m <sup>3</sup>	
	TWA	0,01 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m <sup>3</sup>	Inhalable fraction.
		0,01 mg/m <sup>3</sup>	Respirable fraction.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Netherlands. OELs (binding)**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,004 mg/m <sup>3</sup>	
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value
Cadmium (CAS 7440-43-9)	TLV	0,05 mg/m3
Tin (CAS 7440-31-5)	TLV	2 mg/m3

**Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m3 0,002 mg/m3	Inhalable fraction. Respirable fraction.
Tin (CAS 7440-31-5)	TWA	2 mg/m3	Inhalable fraction.

**Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

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

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m3 0,002 mg/m3	Respirable fraction.
Tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

Components	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m3
Tin (CAS 7440-31-5)	TWA	2 mg/m3

**Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents**

Components	Type	Value
Tin (CAS 7440-31-5)	STEL TWA	4 mg/m3 2 mg/m3

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

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,015 mg/m3	Dust/aerosol, inhalable.
Tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Spain. Carcinogens and Mutagens with Limit Values (Table 2)**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m3 0,002 mg/m3	Inhalable fraction. Respirable fraction.

**Spain. Occupational Exposure Limits**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

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

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,02 mg/m3 0,002 mg/m3	Total dust. Respirable dust.
Tin (CAS 7440-31-5)	TWA	2 mg/m3	Inhalable dust.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Components	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,015 mg/m3 0,004 mg/m3	Inhalable dust. Respirable dust.

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

Components	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0,025 mg/m3

**EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU**

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

**Biological limit values****Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	10 µg/g	Cadmium	Creatinine in urine	*
	10 µg/l	Cadmium	Blood	*
	0,09 µmol/l	Cadmium	Blood	*
	10,06 µmol/mol	Cadmium	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Czech Republic. Limit Values for Indicators of Biological Exposure Tests in Urine and Blood, Annex 2, Tables 1 and 2, Government Decree 432/2003 Sb.**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	0,045 µmol/l	Cadmium	Blood	*
	0,005 µmol/mmol	Cadmium	Creatinine in urine	*
	0,005 mg/g	Cadmium	Creatinine in urine	*
	0,005 mg/l	Cadmium	Blood	*

\* - For sampling details, please see the source document.

**Finland. HTP-arvot, App 2., Biological Limit Values, (BRA/BGV) , Social Affairs and Ministry of Health**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	20 nmol/l	Cadmium	Urine	*

\* - For sampling details, please see the source document.

**France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065)**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	5 µg/g	Cadmium	Creatinine in urine	*
	5 µg/l	Cadmium	Blood	*

\* - For sampling details, please see the source document.

**Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	10 µg/l	cadmium	Blood	*
	0,01 mg/g	cadmium	Creatinine in urine	*
	0,09 µmol/l	cadmium	Blood	*
	0,01 µmol/mmol	cadmium	Creatinine in urine	*

\* - For sampling details, please see the source document.

**Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	4,7 µg/g	Cadmium	Creatinine in urine	*
	7 µg/l	Cadmium	Urine	*

\* - For sampling details, please see the source document.

**Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	5 µg/g	Cadmio	Creatinine in urine	*
	5 µg/l	Cadmio	Blood	*

\* - For sampling details, please see the source document.

**Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)**

Components	Value	Determinant	Specimen	Sampling time
Cadmium (CAS 7440-43-9)	5 µg/g	Cadmium	Creatinine in urine	*

\* - For sampling details, please see the source document.

**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** 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.

### 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.

- **Other** Wear suitable protective clothing.

**Respiratory protection** NIOSH Approved Negative Pressure Respirator with a P-100 Cartridge

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

**Hygiene measures** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**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** 231,9 °C (449,42 °F) estimated

**Initial boiling point and boiling range** 765 °C (1409 °F) estimated

**Flash point** Not available.

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not available.

#### Upper/lower flammability or explosive limits

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

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

**Vapour pressure** 0,00001 hPa estimated

**Vapour density** Not available.

**Relative density** Not available.

#### Solubility(ies)

**Solubility (water)** Not available.

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

**Auto-ignition temperature** 250 °C (482 °F) estimated

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

## 9.2. Other information

Density	8,51 g/cm <sup>3</sup> estimated
Specific gravity	8,51 estimated

## SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
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	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms** Exposure may cause temporary irritation, redness, or discomfort.

### 11.1. Information on toxicological effects

**Acute toxicity** Not known.

Components	Species	Test results
Cadmium (CAS 7440-43-9)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	225 mg/kg

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation** Due to partial or complete lack of data the classification is not possible.

**Serious eye damage/eye irritation** Due to partial or complete lack of data the classification is not possible.

**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** Due to partial or complete lack of data the classification is not possible.

**Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)**

Cadmium (CAS 7440-43-9)

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Cadmium (CAS 7440-43-9) 1 Carcinogenic to humans.

**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** Due to partial or complete lack of data the classification is not possible.

**Aspiration hazard** Due to partial or complete lack of data the classification is not possible.

**Mixture versus substance information** No information available.

**Other information** Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** Due to partial or complete lack of data the classification for hazardous to the aquatic environment, is not possible.



Components	Species	Test results
Cadmium (CAS 7440-43-9)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna)
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)
		0,0491 mg/l, 48 hours
		0,0024 - 0,0029 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

## 12.2. Persistence and degradability

**12.3. Bioaccumulative potential** No data available.

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

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** Not a PBT or vPvB substance or mixture.

**12.6. Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 12.7. Additional information

### Estonia Dangerous substances in groundwater Data

Cadmium (CAS 7440-43-9)	CADMIUM (CD) 1 UG/L
	CADMIUM (CD) 10 UG/L
Tin (CAS 7440-31-5)	Tin (Sn) 150 UG/L
	Tin (Sn) 3 UG/L

### Estonia Dangerous substances in soil Data

Cadmium (CAS 7440-43-9)	CADMIUM (CD) 1 mg/kg
	CADMIUM (CD) 20 mg/kg
	CADMIUM (CD) 5 mg/kg
Tin (CAS 7440-31-5)	Tin (Sn) 10 mg/kg
	Tin (Sn) 300 mg/kg
	Tin (Sn) 50 mg/kg

## 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.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

<b>14.1. UN number</b>	UN3288
<b>14.2. UN proper shipping name</b>	Toxic solid, inorganic, n.o.s. (Cadmium)
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	6.1(PGIII)
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	6.1
<b>Hazard No. (ADR)</b>	60
<b>Tunnel restriction code</b>	E
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	Yes
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**RID**

- 14.1. UN number UN3288  
 14.2. UN proper shipping name Toxic solid, inorganic, n.o.s. (Cadmium)  
 14.3. Transport hazard class(es)  
   Class 6.1(PGIII)  
   Subsidiary risk -  
   Label(s) 6.1  
 14.4. Packing group III  
 14.5. Environmental hazards Yes  
 14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

**ADN**

- 14.1. UN number UN3288  
 14.2. UN proper shipping name Toxic solid, inorganic, n.o.s. (Cadmium)  
 14.3. Transport hazard class(es)  
   Class 6.1(PGIII)  
   Subsidiary risk -  
   Label(s) 6.1  
 14.4. Packing group III  
 14.5. Environmental hazards Yes  
 14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

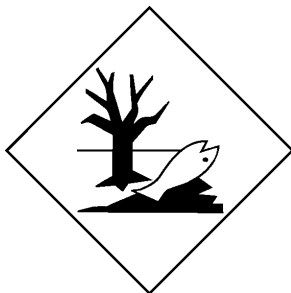
**IATA**

- 14.1. UN number UN3288  
 14.2. UN proper shipping name Toxic solid, inorganic, n.o.s. (Cadmium)  
 14.3. Transport hazard class(es)  
   Class 6.1(PGIII)  
   Subsidiary risk -  
 14.4. Packing group III  
 14.5. Environmental hazards Yes  
 ERG Code 6L  
 14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.  
 Other information  
   Passenger and cargo aircraft Allowed with restrictions.  
   Cargo aircraft only Allowed with restrictions.

**IMDG**

- 14.1. UN number UN3288  
 14.2. UN proper shipping name TOXIC SOLID, INORGANIC, N.O.S. (Cadmium), MARINE POLLUTANT  
 14.3. Transport hazard class(es)  
   Class 6.1(PGIII)  
   Subsidiary risk -  
 14.4. Packing group III  
 14.5. Environmental hazards  
   Marine pollutant Yes  
 EmS F-A, S-A  
 14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

**ADN; ADR; IATA; IMDG; RID**



## 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**

Cadmium (CAS 7440-43-9)

**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**

Cadmium (CAS 7440-43-9)

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

Cadmium (CAS 7440-43-9)

#### 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**

Cadmium (CAS 7440-43-9)

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

Cadmium (CAS 7440-43-9)

#### Other EU regulations

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

Cadmium (CAS 7440-43-9)

#### Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. Additional information is given in the Safety Data Sheet.

#### 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.

#### Information on evaluation method leading to the classification of mixture

Not applicable.

**Disclaimer**

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