MATERION

SAFETY DATA SHEET

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

1.1. Product identifier

Name of the substance Cadmium

Identification number 231-152-8 (EC number)

Registration number -

Document number 1EL

Synonyms CADMIUM, ELEMENTAL * CADMIUM OR CADMIUM COMPOUNDS

Materion Code 1EL

Issue date 14-May-2012

Revision date 10-January-2018

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 Laura Hamilton

1.4. Emergency telephone number

Supersedes date 16-July-2015

Version number 03

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

Identified uses Not available.

Uses advised against 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 classificatior applies.

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

Health hazards

Acute toxicity, oral	Category 3	H301 - Toxic if swallowed. H301 - Toxic if swallowed.
Carcinogenicity	Category 1A	H350 - May cause cancer. H350 - May cause cancer.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1 M-factor = 1000.	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.

Hazard summary WARNING

FATAL IF INHALED. Fatal if inhaled. Toxic if swallowed. Causes damage to organs. May cause cancer. Exposure to powder or dusts may be irritating to eyes, nose and throat. Possible reproductive hazard. Suspected of causing genetic defects. Dangerous for the environment if discharged into watercourses. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This is a consumer care product that is safe for consumers when used according to the label directions. Like many consumer products, a small number of individuals may experience reactions such as redness, rash and / or swelling upon prolonged or repeated skin contact or eye contact.

2.2. Label elements

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

Contains: Cadmium

Hazard pictograms

Signal word Danger

Hazard statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H301	Toxic if swallowed.
H350	May cause cancer.
H350	May cause cancer.
H303	May be harmful if swallowed.
H330	Fatal if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H370	Causes damage to organs ().
H372	Causes damage to organs (respiratory system) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Precautionary statements

Prevention

P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

P101	If medical advice is needed, have product container or label at hand.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P320	Specific treatment is urgent (see this label).
P330	Rinse mouth.
P391	Collect spillage.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

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
Cadmium	90 - 100	7440-43-9 231-152-8	-	-	
Classification:	Acute Tox. 3;H301, Acute Tox. 4;H302, Acute Tox. 1;H330, Muta. 2;H341, Carc. 1A;H350, Repr. 2;H361, STOT SE 1;H370, STOT RE 1;H372, Aquatic Acute 1;H400(M=1000), Aquatic Chronic 1;H410, Aquatic Chronic 4;H413				

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).

Composition comments The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

4.1. Description of first aid measures

Inhalation Move to fresh air. Oxygen or artificial respiration if needed. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician if symptoms develop or persist.

Skin contact Wash the skin immediately with soap and water. Get medical attention if irritation develops and persists. Wash clothing separately before reuse.

Eye contact Do not rub eyes. Rinse with water. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Call a physician or poison control centre immediately. Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

4.2. Most important symptoms and effects, both acute and delayed Headache. Nausea, vomiting. Diarrhoea. Proteinuria. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Discomfort in the chest. Shortness of breath. Oedema. 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. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Powder. Dry sand.

Unsuitable extinguishing media 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

Special protective equipment for firefighters Wear suitable protective equipment.

Special firefighting procedures Water runoff can cause environmental damage.

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

Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. In case of spills, beware of slippery floors and surfaces. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders

Keep unnecessary personnel away.

6.2. Environmental precautions

Avoid release to the environment. Refer to special instructions/safety data sheets. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

6.3. Methods and material for containment and cleaning up

The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Collect dust using a vacuum cleaner equipped with HEPA filter.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Avoid the generation of dusts during clean-up. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. Use appropriate container to avoid environmental contamination. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Use appropriate container to avoid environmental contamination. Store in original tightly closed container. Store in a well-ventilated place. Keep out of the reach of children.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	STEL	0,06 mg/m3	Inhalable fraction.
	TWA	0,015 mg/m3	Inhalable fraction.

Belgium. Exposure Limit Values.

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

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

Material	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m3

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

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

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

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m3	Dust.

Czech Republic. OELs. Government Decree 361

Material	Type	Value
Cadmium (CAS 7440-43-9)	Ceiling	0,1 mg/m3
	TWA	0,05 mg/m3

Denmark. Exposure Limit Values

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	TLV	0,005 mg/m3	Dust and fume.

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

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m3	Total dust.
		0,01 mg/m3	Respirable dust.

Finland. Workplace Exposure Limits

Material	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0,02 mg/m3

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

Material	Type	Value
Cadmium (CAS 7440-43-9)	VME	0,05 mg/m3

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

Material	Type	Value
Cadmium (CAS 7440-43-9)	STEL	0,1 mg/m3
	TWA	0,025 mg/m3

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
Cadmium (CAS 7440-43-9)	Ceiling	0,015 mg/m3

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

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m3	Dust and fume.

Ireland. Occupational Exposure Limits

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

Italy. Occupational Exposure Limits

Material	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0,01 mg/m3

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

Material	Type	Value
Cadmium (CAS 7440-43-9)	STEL	0,05 mg/m3
	TWA	0,01 mg/m3

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

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,05 mg/m3	Inhalable fraction.
		0,01 mg/m3	Respirable fraction.

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value
Cadmium (CAS 7440-43-9)	TLV	0,05 mg/m3

Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

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

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

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

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

Material	Type	Value
Cadmium (CAS 7440-43-9)	TWA	0,05 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)

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,015 mg/m3	Dust/aerosol, inhalable.

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

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

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

Material	Type	Value	Form
Cadmium (CAS 7440-43-9)	TWA	0,02 mg/m3	Total dust.
		0,005 mg/m3	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

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

UK. EH40 Workplace Exposure Limits (WELs)

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

Biological limit values

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

Material	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.

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

Material	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

Material	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

Material	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

Material	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)

Material	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. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment

General information Applicable for industrial settings only: Use personal protective equipment as required. 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 Chemical respirator with organic vapour cartridge, full facepiece, dust and mist filter.

Skin protection

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

- Other Wear chemical protective equipment that is specifically recommended by the manufacturer. Use of an impervious apron is recommended. It may provide little or no thermal protection. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory protection Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapour cartridge, full facepiece, dust and mist filter.

Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Keep away from food and drink. 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	Contain spills and prevent releases and observe national regulations on emissions. Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Powder.
Physical state	Solid.
Form	Powder.
Colour	Not available.
Odour	Not available.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	321 °C (609,8 °F)
Initial boiling point and boiling range	765 °C (1409 °F)
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	< 0,0000001 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	250 °C (482 °F)
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive. Not applicable.
Oxidising properties	Not oxidising.

9.2. Other information

Density	8,65 g/cm3 at 25 °C
Molecular formula	Cd
Molecular weight	112,41 g/mol
Specific gravity	8,65

SECTION 10: Stability and reactivity

10.1. Reactivity	None known.
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 dangerous reaction known under conditions of normal use.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation	Fatal if inhaled.
Skin contact	Due to lack of data the classification is not possible. Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.
Ingestion	Toxic if swallowed.
Symptoms	Headache. Nausea, vomiting. Diarrhoea. Proteinuria. Dusts may irritate the respiratory tract, skin and eyes. Coughing. Discomfort in the chest. Shortness of breath. Oedema.

11.1. Information on toxicological effects

Acute toxicity Fatal if inhaled. Very toxic by inhalation. Toxic if swallowed. Toxic if swallowed.

Product	Species	Test Results
Cadmium (CAS 7440-43-9)		
Acute		
Inhalation		
LC50	Rat	0,025 mg/l, 900 Days
Oral		
LD50	Mouse	890 mg/kg
	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	Suspected of causing genetic defects.
Carcinogenicity	Cancer hazard.

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	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Causes damage to organs (). .
Specific target organ toxicity - repeated exposure	Causes damage to organs. . 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	Not available.

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product		Species	Test Results
Cadmium (CAS 7440-43-9)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0,0491 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	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	No data is available on the degradability of this product.
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

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	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). Avoid discharge into water courses or onto the ground.
Contaminated packaging	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.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. Waste codes should be assigned by the user based on the application for which the product was used. The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	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. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. After recovery of solvent dispose of residue as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN2570
14.2. UN proper shipping name	Cadmium compound
14.3. Transport hazard class(es)	
Class	6.1(PGIII)
Subsidiary risk	-
Label(s)	6.1
Hazard No. (ADR)	60
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

RID

14.1. UN number	UN2570
14.2. UN proper shipping name	Cadmium compound
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	No.
14.6. Special precautions for user	Not available.

ADN

14.1. UN number	UN2570
14.2. UN proper shipping name	Cadmium compound
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	No.
14.6. Special precautions for user	Not available.

IATA

14.1. UN number	UN2570
14.2. UN proper shipping name	Cadmium compound
14.3. Transport hazard class(es)	
Class	6.1(PGIII)
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	No.
ERG Code	6L
14.6. Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

14.1. UN number	UN2570
14.2. UN proper shipping name	CADMIUM COMPOUND
14.3. Transport hazard class(es)	
Class	6.1(PGIII)
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-A
14.6. Special precautions for user	Not available.

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	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. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. This product is not in compliance with Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronics equipment (RoHS).
National regulations	Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. 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.
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