MATERION

SAFETY DATA SHEET

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

1.1. Product identifier

Name of the substance	CdO-TeO2
Identification number	048-002-00-0 (Index number)
Synonyms	None.
Document number	1SC
Materion Code	1SC
Issue date	16-July-2015
Version number	03
Revision date	12-January-2018
Supersedes date	10-February-2016

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

Identified uses	Not available.
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 classificatior applies.

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

Health hazards

Acute toxicity, oral	Category 3	H301 - Toxic if swallowed.
Acute toxicity, inhalation	Category 2	H330 - Fatal if inhaled.
Germ cell mutagenicity	Category 2	H341 - Suspected of causing genetic defects.
Carcinogenicity	Category 1B	H350 - May cause cancer.
Reproductive toxicity (fertility, the unborn child)	Category 2	H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific target organ toxicity - repeated exposure	Category 1	H372 - Causes damage to organs through prolonged or repeated exposure.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	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 Fatal if inhaled. Toxic if swallowed. Causes damage to organs through prolonged or repeated exposure. May cause cancer. Exposure to powder or dusts may be irritating to eyes, nose and throat. Possible reproductive hazard. Suspected of causing genetic defects. Prolonged exposure may cause chronic effects. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.

2.2. Label elements

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

Contains: cadmium oxide

Hazard pictograms

Signal word Danger

Hazard statements

H301	Toxic if swallowed.
H330	Fatal if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
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.
P284	Wear respiratory protection.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTRE/doctor.
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 % of the mixture consists of component(s) of unknown acute oral toxicity.
For further information, please contact the Product Stewardship Department at +1.800.862.4118.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
cadmium oxide	0 - 75	1306-19-0 215-146-2	-	048-002-00-0	
Classification:	Acute Tox. 3;H301, Acute Tox. 2;H330, Muta. 2;H341, Carc. 1B;H350, Repr. 2;H361fd, STOT RE 1;H372, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				

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. The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). 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 Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. 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 or poison control centre immediately.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

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

Ingestion Call a physician or poison control centre immediately. Rinse mouth. 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. Dusts may irritate the respiratory tract, skin and eyes. Coughing. 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 Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

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 Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special firefighting procedures 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. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe dust. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. 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 release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. The product is immiscible with water and will spread on the water surface. Prevent product from entering drains. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Absorb in vermiculite, dry sand or earth and place into containers. 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 of the SDS. For waste disposal, see section 13 of the SDS.

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. Do not breathe dust. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a well-ventilated place. 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. TRK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Material	Type	Value	Form
CdO-TeO2	STEL	0,06 mg/m3	Inhalable fraction.
	TWA	0,015 mg/m3	Inhalable fraction.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	STEL	0,06 mg/m3	Inhalable fraction.
	TWA	0,015 mg/m3	Inhalable fraction.

Belgium. Exposure Limit Values.

Material	Type	Value	Form
CdO-TeO2	TWA	0,01 mg/m3	Inhalable particles.
		0,002 mg/m3	Respirable particles.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	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
CdO-TeO2	TWA	0,05 mg/m3

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	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
CdO-TeO2	MAC	0,025 mg/m3
	STEL	0,05 mg/m3

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

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	MAC	0,025 mg/m3
	STEL	0,05 mg/m3

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

Material	Type	Value	Form
CdO-TeO2	TWA	0,05 mg/m3	Fume.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,05 mg/m3	Fume.

Czech Republic. OELs. Government Decree 361

Material	Type	Value
CdO-TeO2	Ceiling	0,1 mg/m3
	TWA	0,05 mg/m3

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	Ceiling	0,1 mg/m3
	TWA	0,05 mg/m3

Denmark. Exposure Limit Values

Material	Type	Value
CdO-TeO2	TLV	0,005 mg/m3

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	TLV	0,005 mg/m3

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

Material	Type	Value	Form
CdO-TeO2	TWA	0,05 mg/m3	Total dust.
		0,01 mg/m3	Respirable dust.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,05 mg/m3	Total dust.
		0,01 mg/m3	Respirable dust.

Finland. Workplace Exposure Limits

Material	Type	Value	Form
CdO-TeO2	TWA	0,02 mg/m3	
		0,01 mg/m3	Respirable fume.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,02 mg/m3	
		0,01 mg/m3	Respirable fume.

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

Material	Type	Value
CdO-TeO2	VLE	0,05 mg/m3
	VME	0,05 mg/m3

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	VLE	0,05 mg/m3
	VME	0,05 mg/m3

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

Material	Type	Value
CdO-TeO2	STEL	0,1 mg/m3
	TWA	0,025 mg/m3

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

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	STEL	0,1 mg/m3
	TWA	0,025 mg/m3

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
CdO-TeO2	Ceiling	0,05 mg/m3

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	Ceiling	0,05 mg/m3

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

Material	Type	Value	Form
CdO-TeO2	TWA	0,01 mg/m3	Dust and fume.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,01 mg/m3	Dust and fume.

Ireland. Occupational Exposure Limits

Material	Type	Value	Form
CdO-TeO2	STEL	0,05 mg/m3	Fume.
	TWA	0,025 mg/m3	Fume.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	STEL	0,05 mg/m3	Fume.
	TWA	0,025 mg/m3	Fume.

Italy. Occupational Exposure Limits

Material	Type	Value	Form
CdO-TeO2	TWA	0,01 mg/m3	
		0,002 mg/m3	Respirable fraction.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,01 mg/m3	
		0,002 mg/m3	Respirable fraction.

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

Material	Type	Value	Form
CdO-TeO2	TWA	0,05 mg/m3	Inhalable fraction.
		0,01 mg/m3	Respirable fraction.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,05 mg/m3	Inhalable fraction.
		0,01 mg/m3	Respirable fraction.

Netherlands. OELs (binding)

Material	Type	Value	Form
CdO-TeO2	TWA	0,005 mg/m3	Fume.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,005 mg/m3	Fume.

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value
CdO-TeO2	Ceiling	0,02 mg/m3

Components	Type	Value
cadmium oxide (CAS 1306-19-0)	Ceiling	0,02 mg/m3

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

Material	Type	Value	Form
CdO-TeO2	TWA	0,01 mg/m3	Inhalable fraction.
		0,002 mg/m3	Respirable fraction.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	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
CdO-TeO2	TWA	0,01 mg/m3	
		0,002 mg/m3	Respirable fraction.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	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	Form
CdO-TeO2	STEL	0,1 mg/m3	Fume.
	TWA	0,05 mg/m3	Fume.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	STEL	0,1 mg/m3	Fume.
	TWA	0,05 mg/m3	Fume.

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
CdO-TeO2	TWA	0,015 mg/m3	Dust/aerosol, inhalable.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,015 mg/m3	Dust/aerosol, inhalable.

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

Material	Type	Value	Form
CdO-TeO2	TWA	0,01 mg/m3	Inhalable fraction.
		0,002 mg/m3	Respirable fraction.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	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
CdO-TeO2	TWA	0,02 mg/m3	Total dust.
		0,005 mg/m3	Respirable dust.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,02 mg/m3	Total dust.
		0,005 mg/m3	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
CdO-TeO2	TWA	0,002 mg/m3	Respirable dust.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	TWA	0,002 mg/m3	Respirable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value	Form
CdO-TeO2	STEL	0,05 mg/m3	Fume.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value	Form
	TWA	0,025 mg/m3	Fume.

Components	Type	Value	Form
cadmium oxide (CAS 1306-19-0)	STEL	0,05 mg/m3	Fume.
	TWA	0,025 mg/m3	Fume.

Biological limit values

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

Material	Value	Determinant	Specimen	Sampling time
CdO-TeO2	5 µg/g	Cadmium	Creatinine in urine	*
	5 µg/l	Cadmium	Blood	*

Components	Value	Determinant	Specimen	Sampling time
cadmium oxide (CAS 1306-19-0)	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
CdO-TeO2	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	*

Components	Value	Determinant	Specimen	Sampling time
cadmium oxide (CAS 1306-19-0)	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
CdO-TeO2	4,7 µg/g	Cadmium	Creatinine in urine	*
	7 µg/l	Cadmium	Urine	*

Components	Value	Determinant	Specimen	Sampling time
cadmium oxide (CAS 1306-19-0)	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
CdO-TeO2	5 µg/g	Cadmio	Creatinine in urine	*
	5 µg/l	Cadmio	Blood	*

Components	Value	Determinant	Specimen	Sampling time
cadmium oxide (CAS 1306-19-0)	5 µg/g	Cadmio	Creatinine in urine	*
	5 µg/l	Cadmio	Blood	*

* - 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	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 suitable protective clothing. Use of an impervious apron is recommended.
Respiratory protection	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	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	
Physical state	Solid.
Form	Powder.
Colour	Not available.
Odour	Not available.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	1559 °C (2838,2 °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	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Density	8,15 g/cm3
Molecular formula	Cd-O
Molecular weight	128,41 g/mol
Specific gravity	8,15

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	Fatal if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.
Ingestion	Toxic if swallowed.
Symptoms	Headache. Nausea, vomiting. Diarrhoea. Dusts may irritate the respiratory tract, skin and eyes. Coughing.

11.1. Information on toxicological effects

Acute toxicity Fatal if inhaled. Toxic if swallowed.

Product	Species	Test results
CdO-TeO2		
Acute		
Inhalation		
LC50	Dog	0,4 mg/l, 300 Days
	Guinea pig	3 mg/l, 450 Days
	Monkey	15 mg/l, 300 Days
	Mouse	0,34 mg/l, 300 Days
	Rabbit	3 mg/l, 450 Days
	Rat	0,78 mg/l, 300 Days
Oral		
LD50	Mouse	72 mg/kg
	Rat	72 mg/kg

Components	Species	Test results
cadmium oxide (CAS 1306-19-0)		
Acute		
Inhalation		
LC50	Dog	0,4 mg/l, 300 Days
	Guinea pig	3 mg/l, 450 Days
	Monkey	15 mg/l, 300 Days
	Mouse	0,34 mg/l, 300 Days

Components	Species	Test results
	Rabbit	3 mg/l, 450 Days
	Rat	0,78 mg/l, 300 Days
Oral		
LD50	Mouse	72 mg/kg
	Rat	72 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 May cause cancer.

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

cadmium oxide (CAS 1306-19-0)

IARC Monographs. Overall Evaluation of Carcinogenicity

cadmium oxide (CAS 1306-19-0) 1 Carcinogenic to humans.

Slovenia. CMR. Protection of workers from exposure to carcinogen and mutagen agents (ULRS 101/2005, as amended)

cadmium oxide (CAS 1306-19-0) Carcinogenic, Category 1B.

Reproductive toxicity Suspected of damaging fertility. Suspected of damaging the unborn child.

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 Not available.

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects.

Product		Species	Test results
CdO-TeO2			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	0,177 mg/l, 96 hours

Components		Species	Test results
cadmium oxide (CAS 1306-19-0)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	0,177 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 available.

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 oxide (CAS 1306-19-0)	Cadmium (Cd) 1 UG/L Cadmium (Cd) 10 UG/L

Estonia Dangerous substances in soil Data

cadmium oxide (CAS 1306-19-0)	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).

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.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number UN3288

14.2. UN proper shipping name Toxic solid, inorganic, n.o.s. (CdO-TeO2, Tellurium Oxide)

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 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. (CdO-TeO2, Tellurium Oxide)

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 Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN3288

14.2. UN proper shipping name Toxic Solid, N.o.s. (CdO-TeO2, Tellurium Oxide)

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	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. (CdO-TeO2, Tellurium Oxide)
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	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. (CdO-TeO2, Tellurium Oxide)
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	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 oxide (CAS 1306-19-0)

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 oxide (CAS 1306-19-0)

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

cadmium oxide (CAS 1306-19-0)

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 oxide (CAS 1306-19-0)

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

cadmium oxide (CAS 1306-19-0)

Other EU regulations

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

cadmium oxide (CAS 1306-19-0)

Other regulations The product is classified and labelled in accordance with EC directives or respective national laws Pregnant women should not work with the product, if there is the least risk of exposure. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations Follow national regulation for work with chemical agents. 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, as amended.

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.

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