MATERION

SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or Cadmium Telluride-Cadmium Sulfide

designation of the mixture

Registration number Document number 10H **Synonyms** None. **Materion Code** 10H

Issue date 08-May-2015 **Revision date** 11-January-2018

1.3. Details of the supplier of the safety data sheet

Supplier

Materion Advanced Chemicals Inc. Company name

Address 407 N. 13th Street

> 1316 W. St. Paul Avenue Milwaukee, WI 53233

United States

Division Milwaukee 414.212.0257 **Telephone**

e-mail advancedmaterials@materion.com

Contact person Laura Hamilton

1.4. Emergency telephone

number

Supersedes date 08-May-2015

Version number

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 mixture 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

Physical hazards

Oxidising solids Category 2 H272 - May intensify fire; oxidiser.

Health hazards

Category 4 H302 - Harmful if swallowed. Acute toxicity, oral

H302 - Harmful if swallowed.

Acute toxicity, dermal Category 4 H312 - Harmful in contact with skin

. H312 - Harmful in contact with

skin.

H332 - Harmful if inhaled. Acute toxicity, inhalation Category 4 Germ cell mutagenicity Category 2 H341 - Suspected of causing

genetic defects.

Carcinogenicity Category 1A H350 - May cause cancer.

H350 - May cause cancer.

Reproductive toxicity (fertility, the unborn Category 2 H361fd - Suspected of damaging

fertility. Suspected of damaging the

unborn child.

Specific target organ toxicity - repeated Category 2 H373 - May cause damage to exposure

organs through prolonged or

repeated exposure.

Material name: Cadmium Telluride-Cadmium Sulfide 10H Version #: 02 Revision date: 11-January-2018 Issue date: 08-May-2015

Environmental hazards

long-term aquatic hazard

Hazardous to the aquatic environment, acute Category 1

aquatic hazard

Hazardous to the aquatic environment,

Category 1

H400 - Very toxic to aquatic life. H410 - Very toxic to aquatic life

with long lasting effects.

Hazard summary

May intensify fire; oxidiser. Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed. May cause cancer. May cause damage to organs through prolonged or repeated exposure. May cause cancer. Possible reproductive hazard. Suspected of causing genetic defects. Prolonged exposure may cause chronic effects. Dangerous for the environment if discharged into watercourses.

2.2. Label elements

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

Contains: Cadmium Telluride

Hazard pictograms



Signal woı	rd	Danger
------------	----	--------

Hazard statements

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H302	Harmful if swallowed.
H350	May cause cancer.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H341	Suspected of causing genetic defec

cts.

H350 May cause cancer.

Suspected of damaging fertility. Suspected of damaging the unborn child. H361fd May cause damage to organs through prolonged or repeated exposure. H373

Very toxic to aquatic life. H400

Very toxic to aquatic life with long lasting effects. H410

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat.
P220	Keep/Store away from clothing/combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing 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.
lesponse	

Re

csponse	
P301 + P312	IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTRE/doctor if you feel unwell.
P330	Rinse mouth.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use appropriate media to extinguish.
P391	Collect spillage.

Storage

P405 Store locked up.

Disposal

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

Material name: Cadmium Telluride-Cadmium Sulfide SDS FU Supplemental label

information

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Cadmium Telluride	90 - 100	1306-25-8 215-149-9	-	048-001-00-5	
Classification:	Acute Tox. 4;H302, Acut Acute 1;H400, Aquatic C	, ,	ite Tox. 4;H332, Carc. 1A;H3!	50, Aquatic	1,A

4 % of the mixture consists of component(s) of unknown acute dermal toxicity.

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 Take off all contaminated clothing immediately. Contact with combustible material may cause fire.

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. Wash contaminated clothing before reuse.

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 POISON CENTRE or doctor/physician if you feel unwell.

IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before Skin contact

removing clothes. Wash off with soap and plenty of water. Call a POISON CENTRE or

doctor/physician if you feel unwell. Get medical attention if irritation develops and persists. For minor skin contact, avoid spreading material on unaffected skin. Wash contaminated clothing

before reuse.

Eye contact Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove

contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation

develops and persists.

Ingestion Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both

acute and delayed

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.

Prolonged exposure may cause chronic effects.

SECTION 5: Firefighting measures

General fire hazards May intensify fire; oxidiser. Contact with combustible material may cause fire. 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

None known.

5.2. Special hazards arising

from the substance or

mixture

Greatly increases the burning rate of combustible materials. Containers may explode when heated.

Material name: Cadmium Telluride-Cadmium Sulfide SDS FU 10H Version #: 02 Revision date: 11-January-2018 Issue date: 08-May-2015

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

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do

so without risk. Use water spray to cool unopened containers. Water runoff can cause

environmental damage.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

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. Keep away from clothing and other combustible materials. Wear appropriate personal protective equipment. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders

Keep unnecessary personnel away.

6.2. Environmental precautions

Avoid release to the environment. 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

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Keep combustibles (wood, paper, oil etc) away from spilled material. Ventilate the contaminated area. Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Minimise dust generation and accumulation. Prevent entry into waterways, sewer, basements or confined areas. 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.q. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Wear appropriate protective equipment and clothing during clean-up.

6.4. Reference to other sections

Not available.

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. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. 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. Do not empty into drains. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Do not store near combustible materials.

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	Туре	Value	Form
Cadmium telluride (CAS 1306-25-8)	MAK	0,1 mg/m3	Inhalable fraction.
	STEL	0,5 mg/m3	Inhalable fraction.

10H Version #: 02 Revision date: 11-January-2018 Issue date: 08-May-2015

Material name: Cadmium Telluride-Cadmium Sulfide

Components	Туре	Value	Form
Cadmium telluride (CAS 1306-25-8)	STEL	0,06 mg/m3	Inhalable fraction.
	TWA	0,015 mg/m3	Inhalable fraction.
Finland. Workplace Exposure L Components	imits Type	Value	
Cadmium telluride (CAS 1306-25-8)	STEL	0,3 mg/m3	
Greece. OELs (Decree No. 90/1	999, as amended)		
Components	Туре	Value	
Cadmium telluride (CAS 1306-25-8)	STEL	0,1 mg/m3	
Hungary. OELs. Joint Decree or Components	n Chemical Safety of Workplac Type	es Value	
Cadmium telluride (CAS 1306-25-8)	Ceiling	0,015 mg/m3	
Norway. Administrative Norms			
Components	Туре	Value	
Components Cadmium telluride (CAS 1306-25-8)	Type TLV	Value 0,05 mg/m3	
Cadmium telluride (CAS 1306-25-8) Ordinance of the Minister of La	TLV bour and Social Policy on 6 Ju	0,05 mg/m3	
Cadmium telluride (CAS 1306-25-8)	TLV bour and Social Policy on 6 Ju	0,05 mg/m3	
Cadmium telluride (CAS 1306-25-8) Ordinance of the Minister of La and intensities of harmful healt	TLV bour and Social Policy on 6 Juth factors in the work environ	0,05 mg/m3 ine 2014 on the maximum piment, Journal of Laws 2014	
Cadmium telluride (CAS 1306-25-8) Ordinance of the Minister of La and intensities of harmful healt Components Cadmium telluride (CAS	TLV bour and Social Policy on 6 Ju th factors in the work environ Type STEL	0,05 mg/m3 Ine 2014 on the maximum present, Journal of Laws 2014 Value 0,03 mg/m3	, item 817
Cadmium telluride (CAS 1306-25-8) Ordinance of the Minister of La and intensities of harmful healt Components Cadmium telluride (CAS 1306-25-8) Romania. OELs. Protection of w	TLV bour and Social Policy on 6 Ju th factors in the work environ Type STEL vorkers from exposure to cher	0,05 mg/m3 Ine 2014 on the maximum poment, Journal of Laws 2014 Value 0,03 mg/m3 mical agents at the workplace	, item 817
Cadmium telluride (CAS 1306-25-8) Ordinance of the Minister of La and intensities of harmful healt Components Cadmium telluride (CAS 1306-25-8) Romania. OELs. Protection of w Components Cadmium telluride (CAS	TLV bour and Social Policy on 6 Ju th factors in the work environ	0,05 mg/m3 Ine 2014 on the maximum property and property	tem 817
Cadmium telluride (CAS 1306-25-8) Ordinance of the Minister of La and intensities of harmful healt Components Cadmium telluride (CAS 1306-25-8) Romania. OELs. Protection of w Components Cadmium telluride (CAS 1306-25-8) Slovakia. OELs. Regulation No. Components Cadmium telluride (CAS 1306-25-8)	TLV bour and Social Policy on 6 Ju th factors in the work environ Type STEL rorkers from exposure to cher Type TWA 300/2007 concerning protect	0,05 mg/m3 Ine 2014 on the maximum property of Laws 2014, Value 0,03 mg/m3 mical agents at the workplace Value 0,05 mg/m3 Stion of health in work with contract the work with the work with contract the work with the work wi	tem 817
Cadmium telluride (CAS 1306-25-8) Ordinance of the Minister of La and intensities of harmful healt Components Cadmium telluride (CAS 1306-25-8) Romania. OELs. Protection of w Components Cadmium telluride (CAS 1306-25-8) Slovakia. OELs. Regulation No.	bour and Social Policy on 6 Ju th factors in the work environ Type STEL vorkers from exposure to cher Type TWA 300/2007 concerning protect Type TWA	0,05 mg/m3 Ine 2014 on the maximum property and property	tem 817

Bio

Components	Value	Determinant	Specimen	Sampling Time
Cadmium telluride (CAS 1306-25-8)	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 telluride (CAS 1306-25-8)	10 μg/l	cadmium	Blood	*
	0,01 mg/g	cadmium	Creatinine in urine	*
	0,09 μmol/l	cadmium	Blood	*

Material name: Cadmium Telluride-Cadmium Sulfide

10H Version #: 02 Revision date: 11-January-2018 Issue date: 08-May-2015

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
	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 telluride (CAS 1306-25-8)	4,7 μg/g	Cadmium	Creatinine in urine	*	
	7 μg/l	Cadmium	Urine	*	
* For compling details n	lease see the source	document			

^{* -} 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 telluride (CAS 1306-25-8)	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

Not available.

(DNELs)

Not available.

Predicted no effect concentrations (PNECs)

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

Skin protection

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

supplier. Frequent change is advisable.

- Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Wear

protective gloves. Personal protection equipment should be chosen according to the CEN standards

and in discussion with the supplier of the personal protective equipment.

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

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measuresKeep from contact with clothing and other combustible materials. Remove and wash contaminated

clothing promptly. Avoid contact with eyes. Avoid contact with skin. 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

Physical stateSolid.FormSolid.

ColourNot available.OdourNot available.

SDS FU

Odour threshold Not available.
pH Not available.

Melting point/freezing point 1750 °C (3182 °F) estimated

Initial boiling point and

boiling range

Not available.

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 temperatureNot available.Decomposition temperatureNot available.ViscosityNot available.Explosive propertiesNot explosive.

Oxidising properties May intensify fire; oxidiser.

9.2. Other information

Density 4,66 g/cm3 estimated

Specific gravity 4,66 estimated

SECTION 10: Stability and reactivity

10.1. Reactivity Keep away from combustible material. Greatly increases the burning rate of combustible materials.

Not available.

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 Heat. Contact with incompatible materials.10.5. Incompatible materials Combustible material. Reducing Agents.

10.6. Hazardous No hazardous decomposition products are known.

decomposition products

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation Harmful if inhaled.

Skin contactHarmful in contact with skin. Harmful in contact with skin. **Eye contact**Due to lack of data the classification is not possible.

Ingestion Harmful if swallowed. Harmful if swallowed.

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

11.1. Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed. Harmful in contact with skin. Harmful in contact with

skin. Harmful if swallowed.

Material name: Cadmium Telluride-Cadmium Sulfide

SDS EU 7 / 11

Product Species Test Results

Cadmium Telluride-Cadmium Sulfide

Acute Oral

LD50 Mouse 29150 mg/kg estimated

* 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

Skin sensitisation

Respiratory sensitisation

Due to partial or complete lack of data the classification is not possible. 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. May cause cancer.

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

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

IARC Monographs. Overall Evaluation of Carcinogenicity

Cadmium Telluride (CAS 1306-25-8) 1 Carcinogenic to humans.

Reproductive toxicity Suspected of damaging fertility. Suspected of damaging the unborn child. Specific target organ toxicity Due to partial or complete lack of data the classification is not possible.

- single exposure

Aspiration hazard

Specific target organ toxicity

- repeated exposure

May cause damage to organs through prolonged or repeated exposure.

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 Telluride-Cadmium Sulfide

Aquatic

Fish LC50 Fish 5,865 mg/l, 96 hours estimated

* 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

No data available.

potential

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

Not a PBT or vPvB substance or mixture. vPvB assessment

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 Telluride (CAS 1306-25-8) Cadmium (Cd) 1 ug/l

Cadmium (Cd) 10 ug/l

Estonia Dangerous substances in soil Data

Cadmium Telluride (CAS 1306-25-8) Cadmium (Cd) 1 mg/kg

> Cadmium (Cd) 20 mg/kg Cadmium (Cd) 5 mg/kg

Material name: Cadmium Telluride-Cadmium Sulfide

10H Version #: 02 Revision date: 11-January-2018 Issue date: 08-May-2015

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

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and methods/information its container must be disposed of as hazardous waste. Do not allow this material to drain into

sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international

regulations.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number **UN1446** 14.2. UN proper shipping Barium nitrate

14.3. Transport hazard class(es)

Subsidiary risk 6.1(PGI, II) Label(s) 5.1, 6.1 Hazard No. (ADR) Not available. **Tunnel restriction** Not available.

code

14.4. Packing group II 14.5. Environmental Yes

hazards

Not available. 14.6. Special precautions

for user

RTD

14.1. UN number UN1446 14.2. UN proper shipping Barium nitrate

name

14.3. Transport hazard class(es)

Class 5.1 **Subsidiary risk** 6.1(PGI, II) 5.1+6.1 Label(s) 14.4. Packing group ΙΙ 14.5. Environmental No.

hazards

14.6. Special precautions Not available.

for user

ADN

UN1446 **14.1. UN number** 14.2. UN proper shipping Barium nitrate

14.3. Transport hazard class(es)

Class 5.1 **Subsidiary risk** 6.1(PGI, II) Label(s) 5.1, 6.1 14.4. Packing group II 14.5. Environmental Yes

hazards

14.6. Special precautions Not available.

for user

IATA

UN1446 **14.1. UN number** 14.2. UN proper shipping Barium nitrate

name

SDS FU

14.3. Transport hazard class(es)

Class 5.1

Subsidiary risk 6.1(PGI, II)

14.4. Packing group II **14.5. Environmental** No.

hazards

ERG Code 5P

14.6. Special precautions Not available.

for user

Other information

Passenger and cargo Allowed with restrictions.

aircraft

Cargo aircraft only Allowed with restrictions.

IMDG

14.1. UN number UN1446

14.2. UN proper shipping BARIUM NITRATE, MARINE POLLUTANT

name

14.3. Transport hazard class(es)

Class 5.1

Subsidiary risk 6.1(PGI, II)

14.4. Packing group II **14.5. Environmental hazards**

Marine pollutant Yes
EmS F-A, S-Q
14.6. Special precautions Not available.

for user

ADN; ADR; IATA; IMDG; RID



Marine pollutant



General information IMDG Regulated Marine Pollutant.

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 Telluride (CAS 1306-25-8)

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 Telluride (CAS 1306-25-8)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA Not listed.

Authorisations

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

Not listed.

Restrictions on use

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

Not listed.

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

Not listed.

Other EU regulations

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

Cadmium Telluride (CAS 1306-25-8)

Other regulationsThe 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. 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). Pregnant women should not

work with the product, if there is the least risk of exposure.

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** Not available.

Training information Follow training instructions when handling this material.

Disclaimer Materion Advanced Chemicals Inc. cannot anticipate all

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

It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. This document has been prepared using data from sources considered to be technically reliable and

the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and

regulations.

10H Version #: 02 Revision date: 11-January-2018 Issue date: 08-May-2015