



# SAFETY DATA SHEET

**MATERION**

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

### 1.1. Product identifier

**Trade name or designation of the mixture** Cadmium Sulfide-Cadmium Telluride (CdS-CdTe)  
**Registration number** -  
**Document number** 1NX  
**Synonyms** None.  
**Materion Code** 1NX  
**Issue date** 03-May-2015  
**Revision date** 11-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** 26-May-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 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

##### Health hazards

|   |             |   |
|---|-------------|---|
| Acute toxicity, oral                                | Category 4  | H302 - Harmful if swallowed.<br>H302 - Harmful if swallowed.                      |
| Acute toxicity, dermal                              | Category 4  | H312 - Harmful in contact with skin<br>. H312 - Harmful in contact with skin.     |
| Acute toxicity, inhalation                          | Category 4  | H332 - Harmful if inhaled.  |
| Germ cell mutagenicity                              | Category 2  | H341 - Suspected of causing genetic defects.                                      |
| Carcinogenicity                                     | Category 1A | H350 - May cause cancer.<br>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 Category 1 aquatic hazard

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

Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed. May cause cancer. Causes 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 word

Danger

#### Hazard statements

|        |  |
|--------|--|
| 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 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/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. |

### Response

|             |  |
|-------------|--|
| 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.                   |
| P391        | Collect spillage.  |

### Storage

|      |                  |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

### Disposal

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

## Supplemental label information

35 % of the mixture consists of component(s) of unknown acute dermal toxicity.

## 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      | 40 - 90  | 1306-25-8<br>215-149-9 | -                      | 048-001-00-5 |       |
| <b>Classification:</b> | Acute Tox. 4;H302, Acute Tox. 4;H312, Acute Tox. 4;H332, Carc. 1A;H350, Aquatic Acute 1;H400, Aquatic Chronic 1;H410 |                        |                        |              | 1,A   |

## 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** In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 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. 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.

**Skin contact** 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**

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. In case of shortness of breath, give oxygen. 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 (CO<sub>2</sub>).

**Unsuitable extinguishing media** None known.

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

During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special firefighting procedures** Use water spray to cool unopened containers. 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

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. 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. 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

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Stop the flow of material, if this is without risk. Cover with plastic sheet to prevent spreading. 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. 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

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. 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. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place.

### 7.3. Specific end use(s)

Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

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

| Components                        | Type | Value                 | Form                |
|-----------------------------------|------|-----------------------|---------------------|
| Cadmium telluride (CAS 1306-25-8) | MAK  | 0,1 mg/m <sup>3</sup> | Inhalable fraction. |
|                                   | STEL | 0,5 mg/m <sup>3</sup> | Inhalable fraction. |

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

| Components                        | Type | Value                   | Form                |
|-----------------------------------|------|-------------------------|---------------------|
| Cadmium telluride (CAS 1306-25-8) | STEL | 0,06 mg/m <sup>3</sup>  | Inhalable fraction. |
|                                   | TWA  | 0,015 mg/m <sup>3</sup> | Inhalable fraction. |

##### Finland. Workplace Exposure Limits

| Components                        | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cadmium telluride (CAS 1306-25-8) | STEL | 0,3 mg/m <sup>3</sup> |

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

| Components                        | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cadmium telluride (CAS 1306-25-8) | STEL | 0,1 mg/m <sup>3</sup> |

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

| Components                        | Type    | Value                   |
|-----------------------------------|---------|-------------------------|
| Cadmium telluride (CAS 1306-25-8) | Ceiling | 0,015 mg/m <sup>3</sup> |

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

| Components                        | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cadmium telluride (CAS 1306-25-8) | TLV  | 0,05 mg/m <sup>3</sup> |

**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**

| Components                        | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cadmium telluride (CAS 1306-25-8) | STEL | 0,03 mg/m <sup>3</sup> |

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

| Components                        | Type | Value                  |
|-----------------------------------|------|------------------------|
| Cadmium telluride (CAS 1306-25-8) | TWA  | 0,05 mg/m <sup>3</sup> |

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

| Components                        | Type | Value                 |
|-----------------------------------|------|-----------------------|
| Cadmium telluride (CAS 1306-25-8) | TWA  | 0,1 mg/m <sup>3</sup> |

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

| Components                        | Type | Value                 | Form            |
|-----------------------------------|------|-----------------------|-----------------|
| Cadmium telluride (CAS 1306-25-8) | STEL | 0,2 mg/m <sup>3</sup> | Inhalable dust. |

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

| 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               | *             |
|                                   | 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 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 | *             |

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

| Components | Value  | Determinant | Specimen | Sampling Time |
|------------|--------|-------------|----------|---------------|
|            | 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.

**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.

**- 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 measures**

Avoid contact with eyes. Avoid contact with skin. Avoid contact with clothing. 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 state** Solid.

**Form** Solid.

**Colour** Not available.

**Odour** Not available.

**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.

|  |                |
|--|----------------|
| <b>Relative density</b>                        | Not available. |
| <b>Solubility(ies)</b>                         |                |
| <b>Solubility (water)</b>                      | Not available. |
| <b>Partition coefficient (n-octanol/water)</b> | Not available. |
| <b>Auto-ignition temperature</b>               | Not available. |
| <b>Decomposition temperature</b>               | Not available. |
| <b>Viscosity</b>                               | Not available. |
| <b>Explosive properties</b>                    | Not explosive. |
| <b>Oxidising properties</b>                    | Not oxidising. |

## 9.2. Other information

|                         |                                  |
|-------------------------|----------------------------------|
| <b>Density</b>          | 4,66 g/cm <sup>3</sup> estimated |
| <b>Specific gravity</b> | 4,66 estimated                   |

## SECTION 10: Stability and reactivity

|   |   |
|---|---|
| <b>10.1. Reactivity</b>                         | Not available.  |
| <b>10.2. Chemical stability</b>                 | Material is stable under normal conditions.                 |
| <b>10.3. Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use. |
| <b>10.4. Conditions to avoid</b>                | Contact with incompatible materials.                        |
| <b>10.5. Incompatible materials</b>             | None known.   |
| <b>10.6. Hazardous decomposition products</b>   | 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

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Harmful if inhaled.   |
| <b>Skin contact</b> | Harmful in contact with skin. Harmful in contact with skin. |
| <b>Eye contact</b>  | Due to lack of data the classification is not possible.     |
| <b>Ingestion</b>    | 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.

| Product                                      | Species | Test Results          |
|--|---------|-----------------------|
| Cadmium Sulfide-Cadmium Telluride (CdS-CdTe) |         |                       |
| <b>Acute</b>                                 |         |                       |
| <b>Oral</b>                                  |         |                       |
| LD50   | Mouse   | 3331 mg/kg estimated  |
|  | Rat     | 20230 mg/kg estimated |

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

|  |   |
|--|---|
| <b>Skin corrosion/irritation</b>         | Due to partial or complete lack of data the classification is not possible. |
| <b>Serious eye damage/eye irritation</b> | Due to partial or complete lack of data the classification is not possible. |
| <b>Respiratory sensitisation</b>         | Due to partial or complete lack of data the classification is not possible. |
| <b>Skin sensitisation</b>                | Due to partial or complete lack of data the classification is not possible. |
| <b>Germ cell mutagenicity</b>            | Suspected of causing genetic defects.                                       |
| <b>Carcinogenicity</b>                   | 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)**

Not listed.

### 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.

|   |   |
|---|---|
| <b>Specific target organ toxicity - single exposure</b>   | Due to partial or complete lack of data the classification is not possible. |
| <b>Specific target organ toxicity - repeated exposure</b> | Causes damage to organs through prolonged or repeated exposure.             |
| <b>Aspiration hazard</b>                                  | Due to partial or complete lack of data the classification is not possible. |
| <b>Mixture versus substance information</b>               | No information available.   |
| <b>Other information</b>                                  | 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 Sulfide-Cadmium Telluride (CdS-CdTe) |         |                                 |
| <b>Aquatic</b>                               |         |                                 |
| Fish   | LC50    | 0,6703 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 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 Telluride (CAS 1306-25-8) | Cadmium (Cd) 1 ug/l<br>Cadmium (Cd) 10 ug/l |
|-----------------------------------|---|

#### Estonia Dangerous substances in soil Data

|                                   |   |
|-----------------------------------|---|
| Cadmium Telluride (CAS 1306-25-8) | Cadmium (Cd) 1 mg/kg<br>Cadmium (Cd) 20 mg/kg<br>Cadmium (Cd) 5 mg/kg |
|-----------------------------------|---|

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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

## SECTION 14: Transport information

### ADR

|                                      |  |
|--------------------------------------|--|
| <b>14.1. UN number</b>               | UN3077   |
| <b>14.2. UN proper shipping name</b> | Environmentally hazardous substance, solid, n.o.s. |



**14.3. Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -  
**Label(s)** 9  
**Hazard No. (ADR)** 90  
**Tunnel restriction code** E

**14.4. Packing group** III

**14.5. Environmental hazards** Yes

**14.6. Special precautions for user** Not available.

**RID**

**14.1. UN number** UN3077

**14.2. UN proper shipping name** Environmentally hazardous substance, solid, n.o.s.

**14.3. Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -  
**Label(s)** 9

**14.4. Packing group** III

**14.5. Environmental hazards** Yes

**14.6. Special precautions for user** Not available.

**ADN**

**14.1. UN number** UN3077

**14.2. UN proper shipping name** Environmentally Hazardous Solid, N.o.s.

**14.3. Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -  
**Label(s)** 9

**14.4. Packing group** III

**14.5. Environmental hazards** Yes

**14.6. Special precautions for user** Not available.

**IATA**

**14.1. UN number** UN3077

**14.2. UN proper shipping name** Environmentally hazardous substance, solid, n.o.s.

**14.3. Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -

**14.4. Packing group** III

**14.5. Environmental hazards** Yes

**ERG Code** 9L

**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** UN3077

**14.2. UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., MARINE POLLUTANT

**14.3. Transport hazard class(es)**

**Class** 9  
**Subsidiary risk** -

**14.4. Packing group** III

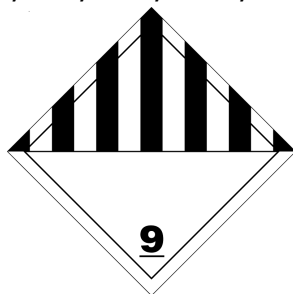
#### 14.5. Environmental hazards

Marine pollutant Yes

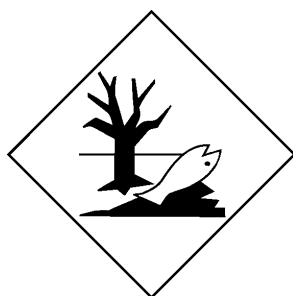
EmS F-A, S-F

14.6. Special precautions for user Not available.

ADN; ADR; IATA; IMDG; RID



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**

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**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

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