



# SAFETY DATA SHEET

**MATERION**

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

### 1.1. Product identifier

**Name of the substance** Cadmium Fluoride (CaF<sub>2</sub>)  
**Identification number** 048-006-00-2 (Index number)  
**Registration number** -  
**Document number** 1ER  
**Synonyms** None.  
**Materion Code** 1ER  
**Issue date** 09-May-2015  
**Revision date** 10-January-2018

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

#### Supplier

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

### 1.4. Emergency telephone number

**Supersedes date** 09-May-2015  
**Version number** 02

### 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

#### 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 1B	H340 - May cause genetic defects.
Carcinogenicity	Category 1B	H350 - May cause cancer.
Reproductive toxicity (fertility, the unborn child)	Category 1B	H360FD - May damage fertility. May damage 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** Not available.

### 2.2. Label elements

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

**Contains:** Cadmium Fluoride

<b>Hazard pictograms</b>	None.
<b>Signal word</b>	Danger
<b>Hazard statements</b>	
H301	Toxic if swallowed.
H330	Fatal if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage 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.
P281	Use personal protective equipment as required.
P284	Wear respiratory protection.

##### Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310	Immediately call a POISON CENTRE or doctor/physician.
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.
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#### Supplemental label information

None.

#### 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 Fluoride	100	7790-79-6 232-222-0	-	048-006-00-2	#
<b>Classification:</b>	Acute Tox. 3;H301, Acute Tox. 2;H330, Muta. 1B;H340, Carc. 1B;H350, Repr. 1B;H360FD, STOT RE 1;H372, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				

### SECTION 4: First aid measures

**General information** Not available.

#### 4.1. Description of first aid measures

<b>Inhalation</b>	Not available.
<b>Skin contact</b>	Not available.
<b>Eye contact</b>	Not available.
<b>Ingestion</b>	Not available.

**4.2. Most important symptoms and effects, both acute and delayed** Not available.

**4.3. Indication of any immediate medical attention and special treatment needed** Not available.

## SECTION 5: Firefighting measures

**General fire hazards** Not available.

### 5.1. Extinguishing media

**Suitable extinguishing media** Not available.

**Unsuitable extinguishing media** Not available.

**5.2. Special hazards arising from the substance or mixture** Not available.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Not available.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel** Not available.

**For emergency responders** Not available.

**6.2. Environmental precautions** Not available.

**6.3. Methods and material for containment and cleaning up** Not available.

**6.4. Reference to other sections** Not available.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Not available.

**7.2. Conditions for safe storage, including any incompatibilities** Not available.

**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

Material	Type	Value	Form
Cadmium Fluoride (CAS 7790-79-6)	STEL	12,5 mg/m <sup>3</sup>	Inhalable fraction.

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

Material	Type	Value	Form
Cadmium Fluoride (CAS 7790-79-6)	STEL	0,06 mg/m <sup>3</sup>	Inhalable fraction.
	TWA	0,015 mg/m <sup>3</sup>	Inhalable fraction.

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	MAC	0,025 mg/m <sup>3</sup>

**Finland. Workplace Exposure Limits**

Material	Type	Value	Form
Cadmium Fluoride (CAS 7790-79-6)	TWA	0,004 mg/m <sup>3</sup>	Respirable.

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	VME	2,5 mg/m <sup>3</sup>
<b>Regulatory status:</b> Regulatory indicative (VRI)		0,05 mg/m <sup>3</sup>
<b>Regulatory status:</b> Indicative limit (VL)		

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	STEL	0,1 mg/m <sup>3</sup>

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	Ceiling	0,05 mg/m <sup>3</sup>
	STEL	10 mg/m <sup>3</sup>
	TWA	2,5 mg/m <sup>3</sup>

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	TWA	2,5 mg/m <sup>3</sup>

**Luxembourg. Binding Occupational exposure limit values (Annex I), Memorial A**

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	TWA	2,5 mg/m <sup>3</sup>

**Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)**

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	TWA	2,5 mg/m <sup>3</sup>

**Netherlands. OELs (binding)**

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	STEL	2 mg/m <sup>3</sup>
	TWA	0,004 mg/m <sup>3</sup>

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	TWA	2,5 mg/m <sup>3</sup>

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	TWA	2,5 mg/m <sup>3</sup>

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

Material	Type	Value	Form
Cadmium Fluoride (CAS 7790-79-6)	TWA	0,01 mg/m <sup>3</sup>	Inhalable fraction.
		0,002 mg/m <sup>3</sup>	Respirable fraction.

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

Material	Type	Value	Form
Cadmium Fluoride (CAS 7790-79-6)	TWA	0,002 mg/m <sup>3</sup>	Respirable dust.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Material	Type	Value	Form
Cadmium Fluoride (CAS 7790-79-6)	STEL	4 mg/m <sup>3</sup>	Inhalable dust.

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

Material	Type	Value
Cadmium Fluoride (CAS 7790-79-6)	TWA	2,5 mg/m <sup>3</sup>

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

Material	Value	Determinant	Specimen	Sampling Time
Cadmium Fluoride (CAS 7790-79-6)	7 mg/g	Fluoride	Creatinine in urine	*
	4 mg/g	Fluoride	Creatinine in urine	*

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

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

Material	Value	Determinant	Specimen	Sampling Time
Cadmium Fluoride (CAS 7790-79-6)	60 µmol/mmol	Fluoride	Creatinine in urine	*
	10 mg/g	Fluoride	Creatinine in urine	*

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

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

Material	Value	Determinant	Specimen	Sampling Time
Cadmium Fluoride (CAS 7790-79-6)	20 nmol/l	Cadmium	Urine	*

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

**Germany. TRGS 903, BAT List (Biological Limit Values)**

Material	Value	Determinant	Specimen	Sampling Time
Cadmium Fluoride (CAS 7790-79-6)	7 mg/g	Fluorid	Creatinine in urine	*
	4 mg/g	Fluorid	Creatinine in urine	*

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

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

Material	Value	Determinant	Specimen	Sampling Time
Cadmium Fluoride (CAS 7790-79-6)	4 mg/l	Fluorid	Urine	*

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

**Recommended monitoring procedures** Not available.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**8.2. Exposure controls**

**Appropriate engineering controls** Not available.

**Individual protection measures, such as personal protective equipment**

**General information** Not available.

<b>Eye/face protection</b>	Not available.
<b>Skin protection</b>	
- <b>Hand protection</b>	Not available.
- <b>Other</b>	Not available.
<b>Respiratory protection</b>	Not available.
<b>Thermal hazards</b>	Not available.
<b>Hygiene measures</b>	Not available.
<b>Environmental exposure controls</b>	Not available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Not available.
<b>Colour</b>	Not available.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapour pressure</b>	< 0,0000001 kPa at 25 °C
<b>Vapour density</b>	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 available.
<b>Oxidising properties</b>	Not available.

### 9.2. Other information

<b>Molecular formula</b>	CdF <sub>2</sub>
<b>Molecular weight</b>	19 g/mol

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Not available.
<b>10.2. Chemical stability</b>	Not available.
<b>10.3. Possibility of hazardous reactions</b>	Not available.
<b>10.4. Conditions to avoid</b>	Not available.
<b>10.5. Incompatible materials</b>	Not available.
<b>10.6. Hazardous decomposition products</b>	Not available.

## SECTION 11: Toxicological information

**General information** Not available.

### Information on likely routes of exposure

**Inhalation** Not available.

**Skin contact** Not available.

**Eye contact** Not available.

**Ingestion** Not available.

**Symptoms** Not available.

### 11.1. Information on toxicological effects

**Acute toxicity** No data available.

**Skin corrosion/irritation** Not available.

**Serious eye damage/eye irritation** Not available.

**Respiratory sensitisation** Not available.

**Skin sensitisation** Not available.

### Germ cell mutagenicity

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

Cadmium Fluoride (CAS 7790-79-6)

Mutagenic, Category 1B.

### Carcinogenicity

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

Cadmium Fluoride (CAS 7790-79-6)

### IARC Monographs. Overall Evaluation of Carcinogenicity

Cadmium Fluoride (CAS 7790-79-6)

1 Carcinogenic to humans.

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

Cadmium Fluoride (CAS 7790-79-6)

Carcinogenic, Category 1B.

### Reproductive toxicity

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

Cadmium Fluoride (CAS 7790-79-6)

Toxic for reproduction, Category 1B.

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Mixture versus substance information** Not available.

**Other information** Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** No toxicity data noted for the ingredient(s).

**12.2. Persistence and degradability** Not available.

**12.3. Bioaccumulative potential** Not available.

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

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

**12.4. Mobility in soil** Not available.

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

**12.6. Other adverse effects** Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Residual waste** Not available.  
**Contaminated packaging** Not available.  
**EU waste code** Not available.

## SECTION 14: Transport information

### ADR

**14.1. UN number** UN3077  
**14.2. UN proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Cadmium Fluoride)  
**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** No.  
**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. (Cadmium Fluoride)  
**14.3. Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**Label(s)** 9  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

### ADN

**14.1. UN number** UN3077  
**14.2. UN proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Cadmium Fluoride)  
**14.3. Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**Label(s)** 9  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

### IATA

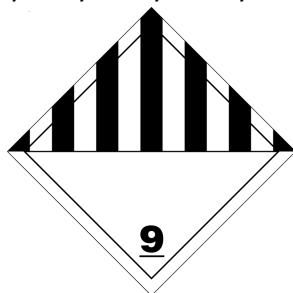
**14.1. UN number** UN3077  
**14.2. UN proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Cadmium Fluoride)  
**14.3. Transport hazard class(es)**  
**Class** 9  
**Subsidiary risk** -  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**ERG Code** 9L  
**14.6. Special precautions for user** Not available.  
**Other information**  
**Passenger and cargo aircraft** Allowed with restrictions.  
**Cargo aircraft only** Allowed with restrictions.



## IMDG

<b>14.1. UN number</b>	UN3077
<b>14.2. UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cadmium Fluoride)
<b>14.3. Transport hazard class(es)</b>	
Class	9
Subsidiary risk	-
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	
Marine pollutant	No.
<b>EmS</b>	F-A, S-F
<b>14.6. Special precautions for user</b>	Not available.

ADN; ADR; IATA; IMDG; RID



## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Cadmium Fluoride (CAS 7790-79-6)

**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**

Not listed.

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

Cadmium Fluoride (CAS 7790-79-6)

#### 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 Fluoride (CAS 7790-79-6)

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

Cadmium Fluoride (CAS 7790-79-6)

#### Other EU regulations

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

Cadmium Fluoride (CAS 7790-79-6)

**National regulations** Not available.

**15.2. Chemical safety assessment** Not available.

## **SECTION 16: Other information**

**List of abbreviations** Not available.

**References** Not available.

**Training information** Not available.