



# PRODUCT INFORMATION SHEET

**MATERION**

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

### 1.1. Product identifier

**Name of the substance** Chromium Granulate  
**Identification number** 231-157-5 (EC number)  
**Registration number** -  
**Document number** G82  
**Synonyms** None.  
**Issue date** 31-August-2021  
**Version number** 01

### 1.3. Details of the supplier of the product information sheet

#### Supplier

**Company name** Materion Advanced Materials  
**Address** 6070 Parkland Boulevard  
United States  
**Division**  
**Telephone** 1.216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

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

**Identified uses** Scientific research and development  
Other: Manufacture of medical and defense equipment  
**Uses advised against** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
Consumer uses: Private households (= general public = consumers)

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

#### Supplier

**Company name** Materion Advanced Materials  
**Address** 6070 Parkland Boulevard  
United States  
**Division**  
**Telephone** 1.216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

## 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 classification applies.

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

##### Environmental hazards

Hazardous to the aquatic environment, acute Category 1 M-factor = 100.  
aquatic hazard

Hazardous to the aquatic environment, Category 1 M-factor = 100.  
long-term aquatic hazard

**Hazard summary** The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

### 2.2. Label elements

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

**Hazard pictograms** None.

**Signal word** None.

**Hazard statements** The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

#### Precautionary statements

**Prevention** Observe good industrial hygiene practices.

**Response** Wash hands after handling.

**Storage** Store away from incompatible materials.

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

**Supplemental label information** For further information, please contact the Product Stewardship Department at +1.216.383.4019.

**2.3. Other hazards** Not a PBT or vPvB substance or mixture.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

##### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Chromium	95 - 98	7440-47-3 231-157-5	-	-	#
<b>Classification:</b> Aquatic Chronic 3;H412					
Aluminium	2 - 4	7429-90-5 231-072-3	-	013-002-00-1	
<b>Classification:</b> Aquatic Acute 1;H400, Aquatic Chronic 1;H410					
Iron	1 - 3	7439-89-6 231-096-4	-	-	T
<b>Classification:</b> -					

### SECTION 4: First aid measures

**General information** 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.

#### 4.1. Description of first aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison centre or doctor/physician if you feel unwell.

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

**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**4.2. Most important symptoms and effects, both acute and delayed** None known.

**4.3. Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

### SECTION 5: Firefighting measures

**General fire hazards** No unusual fire or explosion hazards noted. None known.

#### 5.1. Extinguishing media

**Suitable extinguishing media** Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

**Unsuitable extinguishing media** None known.

**5.2. Special hazards arising from the substance or mixture** This product is not flammable.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Use protective equipment appropriate for surrounding materials.

**Special firefighting procedures** Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to cool unopened containers.

**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. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. For personal protection, see section 8 of the PIS.

**For emergency responders** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use personal protection recommended in Section 8 of the PIS.

**6.2. Environmental precautions** Collect spillage.

**6.3. Methods and material for containment and cleaning up** Avoid dust formation. Stop the flow of material, if this is without risk. Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the PIS.

**6.4. Reference to other sections** For personal protection, see section 8 of the PIS. For waste disposal, see section 13 of the PIS.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**7.2. Conditions for safe storage, including any incompatibilities** Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames and high temperatures.

**7.3. Specific end use(s)** Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

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

Material	Type	Value	Form
Chromium Granulate	TWA	1 mg/m <sup>3</sup>	
<b>Components</b> Aluminium (CAS 7429-90-5)	TWA	5 mg/m <sup>3</sup>	Inhalable
		10 mg/m <sup>3</sup>	Welding fume.
		10 mg/m <sup>3</sup>	Respirable.
		10 mg/m <sup>3</sup>	Pyrophoric powder.
Chromium (CAS 7440-47-3)	TWA	1 mg/m <sup>3</sup>	

##### EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU

Material	Type	Value
Chromium Granulate	TWA	2 mg/m <sup>3</sup>
<b>Components</b> Chromium (CAS 7440-47-3)	TWA	2 mg/m <sup>3</sup>

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**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

<b>Appropriate engineering controls</b>	Good general ventilation 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.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>General information</b>	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
<b>Eye/face protection</b>	If contact is likely, safety glasses with side shields are recommended.
<b>Skin protection</b>	
- <b>Hand protection</b>	Wear gloves to prevent metal cuts and skin abrasions during handling.
- <b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>Hygiene measures</b>	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.
<b>Environmental exposure controls</b>	Good general ventilation 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.

## SECTION 9: Physical and chemical properties

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

#### Appearance

**Physical state** Solid.

**Form** Solid.

**Colour** Light grey.

**Odour** None.

**Odour threshold** Not applicable.

**pH** Not applicable.

**Melting point/freezing point** 1900 °C (3452 °F) / Not applicable.

**Initial boiling point and boiling range** Not applicable.

**Flash point** Not applicable.

**Evaporation rate** Not applicable.

**Flammability (solid, gas)** None known.

#### Upper/lower flammability or explosive limits

**Explosive limit - lower (%)** Not applicable.

**Explosive limit - lower (%) temperature** Not applicable.

**Explosive limit – upper (%)** Not applicable.

**Explosive limit - upper (%) temperature** Not applicable.

**Vapour pressure** Not applicable.

**Vapour density** Not applicable.

**Relative density** Not applicable.

#### Solubility(ies)

**Solubility (water)** Insoluble

**Partition coefficient (n-octanol/water)** Not applicable.

**Auto-ignition temperature** Not applicable.

**Decomposition temperature** Not applicable.

**Viscosity** Not applicable.

**Explosive properties** Not explosive.

**Oxidising properties** Not oxidising.

## 9.2. Other information

Density	7,14 g/cm <sup>3</sup> estimated
Molecular formula	Cr
Molecular weight	52 g/mol

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<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>	Strong oxidising agents. Strong acids.
<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>	No adverse effects due to inhalation are expected.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Not likely, due to the form of the product.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms** May cause respiratory irritation.

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	None known.
<b>Skin corrosion/irritation</b>	Not likely, due to the form of the product.
<b>Serious eye damage/eye irritation</b>	None known.
<b>Respiratory sensitisation</b>	Not a respiratory sensitizer.
<b>Skin sensitisation</b>	Not a skin sensitiser.
<b>Germ cell mutagenicity</b>	Not classified.
<b>Carcinogenicity</b>	Not classified.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Chromium (CAS 7440-47-3) 3 Not classifiable as to carcinogenicity to humans.

<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
Chromium Granulate		
<b>Aquatic</b>		
<i>Acute</i>		
Crustacea	EC50	Water flea ( <i>Daphnia magna</i> ) 0,01 - 0,7 mg/l, 48 hours
Fish	LC50	American eel ( <i>Anguilla rostrata</i> ) 13,9 mg/l, 96 hours

**12.2. Persistence and degradability** No data is available on the degradability of this substance.

<b>12.3. Bioaccumulative potential</b>	No data available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not applicable.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	No data available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 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. 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

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

## 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 (EU) 2019/1021 On persistent organic pollutants (recast), as amended**

Not listed.

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

Not listed.

##### **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**

Aluminium (CAS 7429-90-5)

Chromium (CAS 7440-47-3)

##### **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

Aluminium (CAS 7429-90-5)

### 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

Aluminium (CAS 7429-90-5)

## Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

## National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

## 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.

### Information on evaluation method leading to the classification of mixture

Not applicable.

### Full text of any H-statements not written out in full under Sections 2 to 15

H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

## Revision information

None.

## Training information

Follow training instructions when handling this material.

## Disclaimer

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