



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 Oxide Targets
Identification number 215-160-9 (EC number)
Registration number -
Document number 404
Synonyms None.
Issue date 30-July-2021
Version number 01

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

Identified uses Manufacture of computer, electronic and optical products, electrical equipment
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 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.

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

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 +1.800.862.4118.

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 oxide	100	1308-38-9 215-160-9	-	-	#

Classification: -

SECTION 4: First aid measures

General information

If exposed or concerned: get medical attention/advice. 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

Move to fresh air. Call a physician if symptoms develop or persist.

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

Material	Type	Value
Chromium Oxide Targets	MAK	2 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	MAK	2 mg/m ³

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

Czech Republic. OELs. Government Decree 361

Material	Type	Value	Form
Chromium Oxide Targets	Ceiling	1,5 mg/m ³	Aerosol, inhalable.
	TWA	0,5 mg/m ³	Aerosol, inhalable.
Components	Type	Value	
Chromium oxide (CAS 1308-38-9)	Ceiling	1,5 mg/m ³	
	TWA	0,5 mg/m ³	

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³

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

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	STEL	0,06 mg/m ³
	TWA	0,02 mg/m ³

Finland. Workplace Exposure Limits

Material	Type	Value
Chromium Oxide Targets	TWA	0,5 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³

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

Material	Type	Value
Chromium Oxide Targets	VME	2 mg/m ³
Regulatory status: Regulatory indicative (VRI)		
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	VME	2 mg/m ³

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Material	Type	Value	Form
Chromium Oxide Targets	AGW	2 mg/m ³	Inhalable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Chromium oxide (CAS 1308-38-9)	AGW	2 mg/m ³	Inhalable fraction.

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

Material	Type	Value
Chromium Oxide Targets	TWA	0,5 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
Chromium Oxide Targets	STEL	2 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	STEL	2 mg/m ³

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

Material	Type	Value	Form
Chromium Oxide Targets	TWA	0,5 mg/m ³	Dust.

Ireland. Occupational Exposure Limits

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

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

Material	Type	Value
Chromium Oxide Targets	TWA	1 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	1 mg/m ³

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

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

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

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

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

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value
Chromium Oxide Targets	TLV	0,5 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TLV	0,5 mg/m ³

Poland. 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

Material	Type	Value
Chromium Oxide Targets	TWA	0,5 mg/m ³

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³

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

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Material	Type	Value
Chromium Oxide Targets	TWA	0,5 mg/m ³

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³

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

Material	Type	Value
Chromium Oxide Targets	TWA	0,5 mg/m ³

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³

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

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Material	Type	Value	Form
Chromium Oxide Targets	TWA	2 mg/m ³	Inhalable fraction.

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

Spain. Occupational Exposure Limits

Material	Type	Value
Chromium Oxide Targets	TWA	2 mg/m ³

Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

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

Material	Type	Value	Form
Chromium Oxide Targets	TWA	0,5 mg/m ³	Total dust.

Components	Type	Value	Form
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
Chromium Oxide Targets	TWA	0,5 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value
Chromium Oxide Targets	TWA	0,5 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	0,5 mg/m ³

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 Oxide Targets	TWA	2 mg/m ³
Components	Type	Value
Chromium oxide (CAS 1308-38-9)	TWA	2 mg/m ³

Biological limit values**Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices**

Material	Value	Determinant	Specimen	Sampling Time
Chromium Oxide Targets	0,02 mg/g	chromium	Creatinine in urine	*
	0,043 µmol/mmol	chromium	Creatinine in urine	*
Components	Value	Determinant	Specimen	Sampling Time
Chromium oxide (CAS 1308-38-9)	0,02 mg/g	chromium	Creatinine in urine	*
	0,043 µmol/mmol	chromium	Creatinine in urine	*

* - 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 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.

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Skin protection

- **Hand protection** Wear gloves to prevent metal cuts and skin abrasions during handling.

- **Other** Wear suitable protective clothing.

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

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

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

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 Dark green.

Odour None.

Odour threshold Not applicable.

pH Not applicable.

Melting point/freezing point 2435 °C (4415 °F) / Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not applicable.

Flammability limit - lower (%) temperature Not applicable.

Flammability limit - upper (%) Not applicable.

Flammability limit - upper (%) temperature Not applicable.

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 available.

Oxidising properties Not available.

9.2. Other information

Density 5,22 g/cm³ estimated at 25 °C

Flammability (flash back) Not applicable.

Miscible (water) Immiscible

Molecular formula Cr₂O₃

Molecular weight 151,99 g/mol

Partition coefficient (oil/water) Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability Material is stable under normal conditions.
10.3. Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid Contact with incompatible materials.
10.5. Incompatible materials Strong oxidising agents. Strong acids.
10.6. Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation No adverse effects due to inhalation are expected.
Skin contact No adverse effects due to skin contact are expected.
Eye contact Not likely, due to the form of the product.
Ingestion Expected to be a low ingestion hazard.

Symptoms None known.

11.1. Information on toxicological effects

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

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

Chromium oxide (CAS 1308-38-9) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Not classified.
Specific target organ toxicity - single exposure Not classified.
Specific target organ toxicity - repeated exposure Not classified.
Aspiration hazard Not an aspiration hazard.
Mixture versus substance information No information available.
Other information 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.
12.2. Persistence and degradability No data is available on the degradability of this substance.
12.3. Bioaccumulative potential No data available.
Partition coefficient n-octanol/water (log Kow) Not applicable.
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 soil Data

Chromium oxide (CAS 1308-38-9)

Chromium (Cr) 100 mg/kg

Chromium (Cr) 300 mg/kg

Chromium (Cr) 800 mg/kg

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

Chromium oxide (CAS 1308-38-9)

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

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Information on evaluation method leading to the classification of mixture Not applicable.

Training information Follow training instructions when handling this material.

Further information
Transportation Emergency
Call Chemtrec at:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402

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