



PRODUCT INFORMATION 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 Nickel Chromium Targets

Registration number -

Document number G15

Synonyms None.

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 safety data sheet

Supplier

Company name Materion Electronic Materials
Address 6070 Parkland Boulevard
Mayfield Heights, OH 44124
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.

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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

Skin sensitisation Category 1 H317 - May cause an allergic skin reaction.

Carcinogenicity Category 2 H351 - Suspected of causing cancer.

Specific target organ toxicity - repeated exposure

Category 1 (Respiratory system)

H372 - Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
H372 - Causes damage to organs (Respiratory system) through prolonged or repeated exposure.

2.2. Label elements

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

Contains: Chromium, NICKEL POWDER; [PARTICLE DIAMETER < 1MM]

Hazard pictograms



Signal word

Danger

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.

H317 May cause an allergic skin reaction.
H372 Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
H351 Suspected of causing cancer.
H372 Causes damage to organs (Respiratory system) through prolonged or repeated exposure

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.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.

Response

P302 + P350 If on skin: Wash with plenty of water.
P304 + P341 If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing
P308 + P311 If exposed or concerned: Call a poison centre/doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTRE/doctor.
P363 Wash contaminated clothing before reuse.

Storage

P405 Store locked up.

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

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
NICKEL POWDER; [PARTICLE DIAMETER < 1MM]	50 - 99	7440-02-0 231-111-4	-	028-002-01-4	

Classification: Carc. 2;H351, Aquatic Chronic 3;H412

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Chromium	1 - 50	7440-47-3 231-157-5	-	-	#
Classification: Aquatic Chronic 3;H412(M=100)					

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation

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

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Rinse mouth.

4.2. Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction. Dermatitis. Rash. 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. 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

Dry sand. Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO₂).

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

Wear suitable protective equipment.

Special firefighting procedures

Move containers from fire area if you can do so without risk.

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

Wear appropriate personal protective equipment.

For emergency responders

Use personal protection recommended in Section 8 of the PIS.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Collect spillage.

6.3. Methods and material for containment and cleaning up The product is immiscible with water and will spread on the water surface. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13. 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 Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store locked up. Store in a closed container away from incompatible materials. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s) Not relevant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796-2014)

Components	Type	Value	Form
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m ³	
NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (CAS 7440-02-0)	TWA	1,5 mg/m ³	Inhalable fraction.

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

Components	Type	Value
Chromium (CAS 7440-47-3)	TWA	2 mg/m ³

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

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. 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 If contact is likely, safety glasses with side shields are recommended.

Skin protection

- Hand protection Wear appropriate chemical resistant gloves. Wear gloves to prevent metal cuts and skin abrasions during handling.

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

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

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Observe any medical surveillance requirements. 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. Contaminated work clothing should not be allowed out of the workplace.

Environmental exposure controls Avoid release to the aquatic environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Form	Solid.
Colour	Metallic.
Odour	None.
Odour threshold	Not applicable.
Melting point/freezing point	1455 °C (2651 °F) estimated / Not applicable.
Boiling point or initial boiling point and boiling range	Not applicable.
Flammability	None known.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not applicable.
	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit – upper (%)	Not applicable.
	Not applicable.
Explosive limit - upper (%)	Not applicable.
Flash point	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
pH	Not applicable.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water) (log value)	Not applicable.
Vapour pressure	Not applicable.
Density and/or relative density	
Density	8,31 g/cm ³ estimated
Relative density	Not applicable.
Vapour density	Not applicable.
Particle characteristics	Not available.

9.2. Other information

9.2.1. Information with regard to physical hazard classes No relevant additional information available.

9.2.2. Other safety characteristics

Evaporation rate	Not applicable.
Viscosity	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	Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
10.5. Incompatible materials	Strong acids. Strong oxidising agents.
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	Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Not likely, due to the form of the product.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms May cause an allergic skin reaction. Dermatitis. Rash.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity Not known.

Components	Species	Test Results
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Chromium (CAS 7440-47-3)

Acute

Oral

LD50	Rat	46 - 113 mg/kg
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* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Due to partial or complete lack of data the classification is not possible. Not relevant, due to the form of the product.

Serious eye damage/eye irritation Due to partial or complete lack of data the classification is not possible. Not likely, due to the form of the product.

Respiratory sensitisation Not a respiratory sensitiser. Due to partial or complete lack of data the classification is not possible

Skin sensitisation May cause an allergic skin reaction.

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

Carcinogenicity Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Chromium (CAS 7440-47-3)	3 Not classifiable as to carcinogenicity to humans.
NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (CAS 7440-02-0)	2B Possibly carcinogenic to humans.

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

Specific target organ toxicity - single exposure Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - repeated exposure Causes damage to organs (Respiratory system) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard. Due to partial or complete lack of data the classification is not possible

Mixture versus substance information Not applicable.

11.2. Information on other hazards

Endocrine disrupting properties Not available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity Based on available data, the classification criteria are not met for hazardous to the aquatic environment. Not relevant, due to the form of the product.

Components	Species	Test Results
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Chromium (CAS 7440-47-3)

Aquatic

Acute

Crustacea	EC50	Water flea (Daphnia magna)	0,01 - 0,7 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	10 - 100 mg/l, 96 hours

Components	Species	Test Results
NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (CAS 7440-02-0)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Rock bass (<i>Ambloplites rupestris</i>)
		2,059 - 2,986 mg/l, 96 hours

* 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 any ingredients in the mixture.
12.3. Bioaccumulative potential	Not applicable.
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	This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.
12.6. Endocrine disrupting properties	Not available.
12.7. 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.

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. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
Hazard No. (ADR)	Not assigned.
Tunnel restriction code	Not assigned.
14.4. Packing group	-
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not assigned.

RID

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
14.4. Packing group	-
14.5. Environmental hazards	No.

14.6. Special precautions for user Not assigned.

ADN

14.1. UN number Not regulated as dangerous goods.

14.2. UN proper shipping name Not regulated as dangerous goods.

14.3. Transport hazard class(es)

Class Not assigned.

Subsidiary risk -

14.4. Packing group -

14.5. Environmental hazards No.

14.6. Special precautions for user Not assigned.

IATA

14.1. UN number Not regulated as dangerous goods.

14.2. UN proper shipping name Not regulated as dangerous goods.

14.3. Transport hazard class(es)

Class Not assigned.

Subsidiary risk -

14.4. Packing group -

14.5. Environmental hazards No.

14.6. Special precautions for user Not assigned.

IMDG

14.1. UN number Not regulated as dangerous goods.

14.2. UN proper shipping name Not regulated as dangerous goods.

14.3. Transport hazard class(es)

Class Not assigned.

Subsidiary risk -

14.4. Packing group -

14.5. Environmental hazards

Marine pollutant No.

EmS Not assigned.

14.6. Special precautions for user Not assigned.

General information IMDG Regulated Marine Pollutant.

SECTION 15: Regulatory information

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

EU regulations

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

Not listed.

Regulation (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 (CAS 7440-47-3)

NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (CAS 7440-02-0)

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 - Conditions of restriction given for the associated entry number should be considered**

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.

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended

Not listed.

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended

Not listed.

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. According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

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, as amended 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**

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstract Service.

CEN: European Committee for Standardization.

IATA: International Air Transport Association.

IBC: Intermediate Bulk Container.

IMDG: International Maritime Dangerous Goods.

MARPOL: International Convention for the Prevention of Pollution from Ships.

PBT: Persistent, bioaccumulative, toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short term exposure limit.

TWA: Time Weighted Average.

vPvB: Very persistent and very bioaccumulative.

Not available.

References**Information on evaluation method leading to the classification of mixture**

The classification for health and environmental hazards is derived by a combination of calculator methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H351 Suspected of causing cancer.

H412 Harmful to aquatic life with long lasting effects.

Revision information

Composition / Information on Ingredients: Ingredient Classification

Physical & Chemical Properties: Multiple Properties

Training information

Follow training instructions when handling this material.

Disclaimer

To avoid any misunderstandings or incorrect assumptions by the receiver of the safety information, it should be made clear that the supplied information is not in the form of a Safety Data Sheet (SDS), but is actually a voluntary Product Information Sheet closely following the guidelines of the Safety Data Sheet – COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 (REACH/SDS).