

**MATERION****1. Chemical and company identification**

Name of chemical (Product name)	Nickel Chromium Targets
Company name	Materion Advanced Materials Germany GmbH
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Emergency telephone number	49.60.23.91.82.0
Reference number	G15

2. Hazards identification**GHS classification**

Physical hazards	The product is not classified according to GHS.		
Health hazards	Sensitization, skin	Category 1	
	Carcinogenicity	Category 2	
	Specific target organ toxicity, repeated exposure	Category 1 (respiratory system)	
Environmental hazards	The product is not classified according to GHS.		

GHS label elements**Symbols****Signal words**

Danger

Hazard statement

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

Precautionary statement**Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.

Response

If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a poison center/doctor.

Storage

Store locked up.

Disposal

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

Other hazards which do not result in classification

None known.

Supplemental information

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

Main symptoms and emergency overview**Main symptoms**

May cause an allergic skin reaction. Prolonged exposure may cause chronic effects.

Emergency overview

May cause sensitization by skin contact. Suspected of causing cancer. Prolonged exposure may cause chronic effects.

3. Composition/information on ingredients**Substance or mixture** Mixture

Components	CAS Number	Gazette notification		Concentration (%)
		ENCS no.	ISHL no.	
Nickel	7440-02-0			50 - 99
Chromium	7440-47-3			1 - 50

Chemical formula Ni (7440-02-0), Cr (7440-47-3)

4. First aid measures

If inhaled	Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.
If on skin	Thoroughly wash skin cuts or wounds to remove all particulate debris from the wound. Seek medical attention for wounds that cannot be thoroughly cleansed. Treat skin cuts and wounds with standard first aid practices such as cleansing, disinfecting and covering to prevent wound infection and contamination before continuing work. Obtain medical help for persistent irritation. Material accidentally implanted or lodged under the skin must be removed.
If in eyes	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally.
If swallowed	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.
Protection of first-aid responders	If exposed or concerned: get medical attention/advice.

5. Fire-fighting measures

Extinguishing media	Powder. Dry sand.
Extinguishing media to avoid	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards	This product is not flammable.
Special fire fighting procedures	Move container from fire area if it can be done without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures	As supplied, this product poses no special release issues.
Environmental precautions	Prevent further leakage or spillage if safe to do so.
Methods or materials for containment and cleaning up	For waste disposal, see section 13 of the SDS.

7. Handling and storage

Handling	
Technical measures (e.g. Local and general ventilation)	Provide adequate ventilation.
Safe handling advice	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Contact avoidance measures	Strong acids. For further information, please refer to section 10 of the SDS.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Contaminated work clothing should not be allowed out of the workplace.
Storage	
Safe storage conditions	Store locked up. Store away from incompatible materials (see Section 10 of the SDS).
Safe packaging materials	Keep locked up.

8. Exposure controls/personal protection

Occupational exposure limits

Japan. OELs - ISHL. (Workplace Environment Assessment Standards)

Components	Type	Value
Nickel (CAS 7440-02-0)	TLV	0.1 mg/m ³

Japan. OELs - JSOH (Japan Society of Occupational Health: Recommendation of Occupational Exposure Limits)

Components	Type	Value
Chromium (CAS 7440-47-3)	TWA	0.5 mg/m ³
Nickel (CAS 7440-02-0)	TWA	1 mg/m ³

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Chromium (CAS 7440-47-3)	TWA	0.5 mg/m ³	
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m ³	Inhalable fraction.

Engineering measures	Follow standard monitoring procedures.
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Personal protective equipment

Respiratory protection	In case of inadequate ventilation, use respiratory protection.
Hand protection	Wear gloves to prevent metal cuts and skin abrasions during handling.
Eye protection	Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.
Skin and body protection	Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Metallic.

Odor None.

Odor threshold Not applicable.

pH Not applicable.

Melting point/Freezing point 2651 °F (1455 °C) estimated / Not applicable.

Boiling point, initial boiling point, and boiling range Not applicable.

Flash point Not applicable.

Combustion characteristics (solid, gas) None known.

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.

Vapor pressure Not applicable.

Vapor density Not applicable.

Evaporation rate Not applicable.

Specific gravity Not applicable.

Solubility(ies)

Solubility (water) Insoluble.

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

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity (Coefficient of viscosity) Not applicable.

Other information

Density 8.31 g/cm³ estimated

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

Relative density Not applicable.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Acute toxicity	None known.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Not likely, due to the form of the product.

Respiratory or skin sensitization

Japan Society for Occupational Health: Respiratory sensitizer

Chromium (CAS 7440-47-3)	2 Probable respiratory sensitizer.
Nickel (CAS 7440-02-0)	2 Probable respiratory sensitizer.

Japan Society for Occupational Health: Skin sensitizer

Chromium (CAS 7440-47-3)	1 Known skin sensitizer.
Nickel (CAS 7440-02-0)	1 Known skin sensitizer.

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause sensitization by skin contact.

Germ cell mutagenicity Not classified.

Carcinogenicity Suspected of causing cancer.

ACGIH Carcinogens

Chromium (CAS 7440-47-3)	A4 Not classifiable as a human carcinogen.
Nickel (CAS 7440-02-0)	A5 Not suspected as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Chromium (CAS 7440-47-3)	3 Not classifiable as to carcinogenicity to humans.
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Nickel (CAS 7440-02-0)	Known To Be Human Carcinogen. Reasonably Anticipated to be a Human Carcinogen.
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Reproductive toxicity Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs (respiratory system) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity	Not available.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulation	Not available.
Mobility in soil	Not available.
Hazardous to the ozone layer	Not available.

13. Disposal considerations

Dispose in accordance with all applicable regulations.

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.

Local disposal regulations Dispose of contents/container in accordance with local/regional/national/international regulations.

14. Transport information

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

National regulations Follow regulation in section 15 for domestic transportation.

15. Regulatory information

Industrial Safety and Health Act

Specified substances regulation

Class 2 designated chemical substances

NICKEL COMPOUNDS (POWDER, EXCLUDING NICKEL CARBONYL (ITEM NO. 24))

Notifiable substances

CHROMIUM AND CHROMIUM COMPOUNDS (EXCLUDING CHROMIC ACID AND CHROMIC ACID SALTS AND DICHROMIC ACID AND DICHROMATE) Table 9 Ordinance No. 142 1.0 - 50 %

NICKEL Table 9 Ordinance No. 418 50 - 99 %

Labeling substances

CHROMIUM (POWDER) 1.0 - 50 %

CHROMIUM AND CHROMIUM COMPOUNDS (EXCLUDING CHROMIC ACID AND CHROMIC ACID SALTS AND DICHROMIC ACID AND DICHROMATE) 1.0 - 50 %

Poisonous and Deleterious Substances Control Act

Specified poisonous substances

Not regulated.

Poisonous substances

Not regulated.

Deleterious substances

Not regulated.

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Class I specified chemical substances

Not regulated.

Class II specified chemical substances

Not regulated.

Monitoring chemical substances

Not regulated.

Priority Assessment Chemical Substances (PACs)

Not regulated.

Reporting Exempted Substances

Not regulated.

Law concerning Pollutant Release and Transfer Register

Specified class 1 substances (substance name, ordinance number and content)

NICKEL COMPOUNDS Ordinance No. 309 99 % (Nickel)

Class 1 substances (substance name, ordinance number and content)

CHROMIUM AND CHROMIUM(III) COMPOUNDS Ordinance No. 87 50 % (Chromium)

NICKEL Ordinance No. 308 99 % (Nickel)

Class 2 substances (substance name, ordinance number and content)

Not regulated.

Ship Safety Law, Dangerous Goods Marine Transport and Storage Rule Not regulated.

Air Law, Enforcement Rule Not regulated.

Explosives Control Act

Not regulated.

Water Pollution Control Act

CHROMIUM

Sewage Act

CHROMIUM AND ITS COMPOUNDS, EXCEPT HEXAVALENT CHROMIUM COMPOUNDS (AS CR) 2 MG/L

16. Other information

Bibliography

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012
JIS Z 7252:2014 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"
JIS Z 7253:2012 Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS)

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