



MATERIAL SAFETY DATA SHEET

MATERION

1. Chemical product and company identification

A. Product name Nickel Silicon Targets

Other means of identification

SDS number G62

B. Recommended use and Limitations on use

Recommended use Manufacture of computer, electronic and optical products, electrical equipment
Scientific research and development
Other: Manufacture of medical and defense equipment

Limitations on use Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Consumer uses: Private households (= general public = consumers)

C. Supplier information

Company name Materion Advanced Materials
Address 6070 Parkland Boulevard
Mayfield Heights OH 44124
United States

Telephone EH&S 1.216.383.4019

Email ehs@materion.com

Contact person Theodore Knudson

Emergency telephone number See Section 16.

Importer

Company name See above.

MSDS number G62

2. Hazards identification

A. Hazard category/Classification

Physical hazards Not classified.

Health hazards Sensitization, respiratory Category 1
Sensitization, skin Category 1
Carcinogenicity Category 2
Specific target organ toxicity, single exposure Category 1
Specific target organ toxicity, repeated exposure Category 1

Environmental hazards Not classified.

B. Warning label items including precautionary statement

• Pictogram



• Signal word Danger

• Hazard statement

H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.

• Precautionary statement

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/vapors/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/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P405	Store locked up.
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Disposal

P501	Dispose of contents/container (in accordance with related regulations).
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C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard) None known.

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

3. Composition/information on ingredients

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Nickel		7440-02-0	KE-25818	75 - 89
Silicon		7440-21-3	KE-31029	11 - 25

4. First aid measures

A. In case of eye contact	Rinse with water. Get medical attention if irritation develops and persists.
B. In case of skin contact	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. Remove contaminated clothing immediately and wash skin with soap and water.
C. In case of inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or doctor/physician.
D. In case of swallowing	Rinse mouth. Get medical attention if symptoms occur.
E. Note to physician	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	Dry sand.
Unsuitable extinguishing media	Carbon dioxide (CO ₂).

B. Specific hazards arising from the chemical (example: hazardous combustion products) This product is not flammable.

C. Specific methods of fire-fighting

Special protective equipment for firefighters	Use protective equipment appropriate for surrounding materials.
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6. Accidental release measures

- A. Personal precautions, protective equipment and emergency measures** Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
- B. Environmental precautions** Avoid discharge into drains, water courses or onto the ground.
- C. Methods and materials for containment and cleaning up** Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers.

7. Handling and storage

- A. Precautions for safe handling** Do not handle until all safety precautions have been read and understood. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
- B. Conditions for safe storage (including any incompatibilities)** Store locked up. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure controls/personal protection

A. Exposure limit values, biological limit values, etc

Korea. OELs. Standards for Exposure to Chemical Substances and Physically Hazardous Factors

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	1 mg/m ³
Silicon (CAS 7440-21-3)	TWA	10 mg/m ³

US. ACGIH Threshold Limit Values

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

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

B. Appropriate engineering controls Not available.

C. Personal protective equipment

- **Respiratory protection** In case of inadequate ventilation, use respiratory protection.
- **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.
- **Hand protection** Wear gloves to prevent metal cuts and skin abrasions during handling.
- **Body protection** Wear necessary protective equipment.

9. Physical and chemical properties

A. Appearance

- Physical state** Solid.
- Form** Not available.
- Color** Grey.

B. Odor None.

C. Odor threshold Not applicable.

D. pH Not applicable.

E. Melting point/freezing point

- Melting point** 2570 °F (1410 °C) estimated
- Freezing point** Not applicable.

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

G. Flash point Not applicable.

H. Evaporation rate Not applicable.

I. Flammability (solid, gas) None known.

J. Upper/lower limit on 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.
K. Vapor pressure	Not applicable.
L. Solubility	
Solubility (water)	Insoluble.
M. Vapor density	Not applicable.
N. Specific gravity	Not applicable.
O. n-octanol/water partition coefficient	Not applicable.
P. Auto-ignition temperature	Not applicable.
Q. Decomposition temperature	Not applicable.
R. Viscosity	Not applicable.
S. Molecular weight	Not applicable.
Other data	
Density	7.46 g/cm ³ estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
A. Stability and hazardous reaction potential	
Stability	Material is stable under normal conditions.
Hazardous reaction potential	Not available.
B. Conditions to avoid (e.g. static discharge, shock or vibration, etc)	Contact with incompatible materials.
C. Incompatible materials	Fluorine. Strong acids. Chlorine.
D. Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

A. Information on likely routes of exposure	
• Respiratory organs	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.
• Skin	May cause an allergic skin reaction.
• Eyes	Not relevant, due to the form of the product.
• Mouth	Expected to be a low ingestion hazard.
B. Information on health hazards	
• Acute toxicity (list all possible routes of exposure)	None known.
• Corrosivity or irritation to the skin	Prolonged skin contact may cause temporary irritation.
• Serious eye damage/eye irritation	Not likely, due to the form of the product.

- **Respiratory sensitization** May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Skin sensitization** May cause an allergic skin reaction.
- **Carcinogenic properties /Carcinogenicity** Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel (CAS 7440-02-0)

2B Possibly carcinogenic to humans.

- **Mutagenic properties /Mutagenicity** Not classified.
- **Reproductive toxicity** Not classified.
- **Specific target organ toxicity - single exposure** Causes damage to organs.
- **Specific target organ toxicity - repeated exposure** Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.
- **Aspiration hazard** Not an aspiration hazard.

12. Ecological information

- A. **Ecotoxicity** No data available.
- B. **Persistence/degradability** Not available.
- C. **Bioaccumulative potential** Not available.
- D. **Mobility in soil** Not available.
- E. **Other adverse effects** Not available.

13. Disposal considerations

- A. **Method of disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.
- B. **Disposal considerations (including disposal of contaminated containers or packaging)** Not available.

14. Transport information

IATA

- A. **UN number** Not applicable.
- B. **UN proper shipping name** Not applicable.
- C. **Transport hazard class(es)**
 - Class** Not applicable.
 - Subsidiary risk** -
- D. **Packing group** Not applicable.
- E. **Environmental hazards** No.
- F. **Special precautions for user** Not applicable.

IMDG

- A. **UN number** Not applicable.
- B. **UN proper shipping name** Not applicable.
- C. **Transport hazard class(es)**
 - Class** Not applicable.
 - Subsidiary risk** -
- D. **Packing group** Not applicable.
- E. **Environmental hazards**
 - Marine pollutant** No.
- EmS** Not applicable.
- F. **Special precautions for user** Not applicable.

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

15. Regulatory information

A. Restrictions under the Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacturing

Not regulated.

Harmful Substances Requiring Permission for Manufacture or Use

Not regulated.

Controlled Hazardous Substances

Nickel (CAS 7440-02-0)

Harmful Substances Requiring Special Medical Examination

Nickel (CAS 7440-02-0)

MINERAL DUST (CAS 7440-21-3) Dust

Workplace Environmental Monitoring Harmful Materials

Nickel (CAS 7440-02-0)

OTHER MINERAL DUST (CAS 7440-21-3) Dust

Occupational Exposure Limit

Nickel (CAS 7440-02-0)

Silicon (CAS 7440-21-3)

B. Restrictions under the Chemicals Control Law (Previously Toxic Chemicals Control Law)

Accidental Release Prevention Substances

Not regulated.

Act on the Registration and Evaluation of Chemicals

Banned Toxic Chemicals

Not regulated.

Designated Existing Chemicals Subject to Registration (PEC) (MoE No. 2015-92)

Not listed.

Restricted Chemical Substances

Not regulated.

Toxic Chemicals

Not regulated.

C. Restrictions under the Dangerous Substance Safety Management Act

D. Restrictions under the Wastes Control Act

Halogenated Materials in Waste Organic Solvents

Not regulated.

Hazardous Substances

Not regulated.

E. Restrictions under other foreign or domestic laws

Clean Air Conservation Act

Air Pollutants

Nickel (CAS 7440-02-0)

Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides (Rules on PIC, MoE No. 2014-252, Dec. 31, 2014; Standards for Pesticides, RDA No. 2014-26), as amended

Not listed.

Specific Air Pollutants

Nickel (CAS 7440-02-0)

Further information

This material safety data sheet was prepared in accordance with Article 41 of the Industrial Safety and Health Law.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Korea	Existing Chemicals List (ECL)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

A. Source of information Not available.

B. Issue date 02-20-2020

C. Number of revisions and date of most recent revision 11-02-2021 (03 revision)

Further information Transportation Emergency
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US: 800.424.9300
International: 703.741.5970
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Switzerland: 0800.564.402
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059
South Korea Toll-free Number – 080-880-0468

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Other information Revised information in Section 3.