



MATERION

CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

Product name: Nickel Silicon Targets

Issue date: 02-14-2020

Revision date: 11-02-2021


Version #: 03

SDS No: G62

SECTION 1 Chemical product and company identification

Chinese name of chemical	镍硅靶	
English name of chemical	Nickel Silicon Targets	
Manufacturer/Supplier	Materion Advanced Materials	
Address	6070 Parkland Boulevard Mayfield Heights, OH 44124 United States	
Contact person	Theodore Knudson	
Telephone	EH&S	1.216.383.4019
e-mail	ehs@materion.com	
Emergency telephone number	See Section 16.	
Issue date	02-14-2020	
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Supersedes date	09-22-2021	
SDS No	G62	

SECTION 2 Hazards identification

Emergency overview	Suspected of causing cancer.	
GHS hazard categories		
Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2B
	Carcinogenicity	Category 2
Environmental hazards	Not classified.	
Label elements		
Pictograms		
Signal word	Warning	
Hazard statement		
H351	Suspected of causing cancer.	
Precautionary statement		
Prevention		
P201	Obtain special instructions before use.	
P202	Do not handle until all safety precautions have been read and understood.	
P280	Wear protective gloves/protective clothing/eye protection/face protection.	
Response		
P308 + P313	IF exposed or concerned: Get medical advice/attention.	
Storage		
P405	Store locked up.	
Disposal		
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.	

Physical and chemical hazards	The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.
Health hazards	Suspected of causing cancer by inhalation.
Environmental hazards	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.
Supplemental information	For further information, please contact the Product Stewardship Department at +1.216.383.4019.

SECTION 3 Composition/information on ingredients

Substance/mixture	Mixture		
Chemical name	Concentration (%)	CAS Number	
镍 Nickel	75 - 89	7440-02-0	
硅 Silicon	11 - 25	7440-21-3	

SECTION 4 First aid measures

Inhalation	Call a poison center 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	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms and health effects	Direct contact with eyes may cause temporary irritation.
Personal protection for first-aid responders	IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Notes to physician	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5 Fire-fighting measures

Extinguishing media	Dry sand.
Extinguishing media to avoid	Water. Carbon dioxide (CO ₂).
Specific hazards	This product is not flammable.
Special fire fighting procedures	Move containers from fire area if you can do so without risk.
Protection of fire-fighters	Use protective equipment appropriate for surrounding materials.
General fire hazards	No unusual fire or explosion hazards noted.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Clean-up methods and materials and containment measures	Large Spills: Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Small Spills: Clean surface thoroughly to remove residual contamination. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Prevention of secondary hazards	Not available.

SECTION 7 Handling and storage

Handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Storage	Store locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8 Exposure controls/personal protection

Exposure limits

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

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

Biological limit values	No biological exposure limits noted for the ingredient(s).
Monitoring methods	Follow standard monitoring procedures.
Engineering measures	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.
Personal protective equipment	
Respiratory protection	If ventilation is insufficient, suitable respiratory protection must be provided.
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	Wear suitable protective equipment. Use of an impervious apron is recommended.
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.

SECTION 9 Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid. Various shapes.
Color	Copper
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	2570 °F (1410 °C) estimated / Not applicable.
Boiling point, initial boiling point, and boiling range	Not applicable.
Flash point	Not applicable.
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 - upper (%)	Not applicable.
Vapor pressure	Not applicable.

Vapor density	Not applicable.
Relative density	Not applicable.
Density	7.46 g/cm ³ estimated
Solubility(ies)	
Solubility (water)	Not applicable.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	None known.
Other data	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Viscosity	Not applicable.

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
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. Chlorine. Fluorine.
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11 Toxicological information

Acute toxicity	Not known.
Routes of exposure	Inhalation.
Symptoms	Direct contact with eyes may cause temporary irritation.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	May cause irritation.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Suspected of causing cancer.
China OELs for hazardous agents in the workplace: Carcinogen Category	
NICKEL METAL (CAS 7440-02-0)	Possible human carcinogen.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Nickel (CAS 7440-02-0)	2B Possibly carcinogenic to humans.
Toxic to reproduction	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity following single exposure	Not classified.
Specific target organ toxicity following repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Suspected to increase risk of cancer.

SECTION 12 Ecological information

Ecotoxicity	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.
Persistence and degradability	No data is available on the degradability of any ingredients in the mixture.
Bioaccumulation	No data available.
Mobility in soil	This product is miscible in water.
Other hazardous 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

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	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.

SECTION 14 Transport information

CNDG

UN number	UN3178
UN proper shipping name	FLAMMABLE SOLID, INORGANIC, N.O.S. (Silicon)
Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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 applicable.

CNDG



SECTION 15 Regulatory information

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Not regulated.

Regulations on the Control over Safety of Dangerous Chemicals

Catalog of Hazardous Chemicals

SILICON POWDER, AMORPHOUS (CAS 7440-21-3)

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

Directory of Highly Toxic Substances

Nickel (CAS 7440-02-0)

Provision on the Environmental Administration of New Chemical Substances**China Inventory of Existing Chemical Substances**

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	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).

Other regulations

This safety data sheet conforms to the following laws, regulations and standards:
 Measures for the Safe Use of Chemicals in Workplaces
 General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
 Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
 Packing Symbol of Dangerous Goods(GB190-2009)
 Regulations on the Control over Safety of Dangerous Chemicals
 Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
 Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

China. National Catalogue of Hazardous Wastes

Nickel (CAS 7440-02-0)

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Not applicable.

SECTION 16 Other information**References**

EPA: AQUIRE database
 GB6944-2012: Classification and Code of Dangerous Goods.
 GB12268-2012: List of Dangerous Goods.
 NLM: Hazardous Substances Data Base
 US. IARC Monographs on Occupational Exposures to Chemical Agents

Further information

Transportation Emergency
 Call Chemtrec at:
 US: 800.424.9300
 International: 703.741.5970
 Spain: 900.868.538
 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.