



MATERION

CHEMICAL PRODUCT SAFETY DATA SHEET

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

Product name: Nickel Chromium Targets

Issue date: 12-07-2018

Version #: 01

SDS No: G15

SECTION 1 Chemical product and company identification

| | |
|----------------------------|---|
| Chinese name of chemical | 镍铬目标 |
| English name of chemical | Nickel Chromium Targets |
| Manufacturer/Supplier | Materion Advanced Materials Germany GmbH |
| Address | Borsigstrasse 10 Alzenau, 63755 Germany |
| Contact person | Hermann Schmiing |
| Telephone | 49.60.23.91.82.0 |
| e-mail | Materion.Germany@materion.com |
| Emergency telephone number | 49.60.23.91.82.0 |
| Issue date | 12-07-2018 |
| SDS No | G15 |

SECTION 2 Hazards identification

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

Hazard categories

| | | |
|-----------------------|---|---------------------------------|
| Physical hazards | Not classified. | |
| Health hazards | Sensitization, skin | Category 1 |
| | Carcinogenicity | Category 2 |
| | Specific target organ toxicity, repeated exposure | Category 1 (Respiratory system) |
| Environmental hazards | Not classified. | |

Label elements

Pictograms



Signal word

Danger

Hazard statement

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

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. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P285 | In case of inadequate ventilation wear respiratory protection. |

Response

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
 P342 + P311 If experiencing respiratory symptoms: Call a poison center/doctor.

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

Prolonged inhalation may be harmful. May cause an allergic skin reaction. Expected to be a low ingestion hazard. Direct contact with eyes may cause temporary irritation.

Environmental hazards

The product is not expected to be hazardous to 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 | Concentration (%) | CAS Number |
|-------------------|---------|-------------------|------------|
| Chemical name | | | |
| Nickel | | 50 - 99 | 7440-02-0 |
| Chromium | | 1 - 50 | 7440-47-3 |

SECTION 4 First aid measures**Inhalation**

Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

Skin contact

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.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally.

Ingestion

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Most important symptoms and health effects

Not available.

Personal protection for first-aid responders

If exposed or concerned: get medical attention/advice.

SECTION 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.

Protection of fire-fighters

None.

SECTION 6 Accidental release measures**Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

As supplied, this product poses no special release issues.

For emergency responders

As supplied, this product poses no special release issues.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Clean-up methods and materials and containment measures

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. Provide adequate ventilation. 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. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Storage Store locked up. Store in original 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 |
|--------------------------|--------|------------------------|
| Chromium (CAS 7440-47-3) | PC-TWA | 0.05 mg/m ³ |
| 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 Follow standard monitoring procedures.

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.

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.

SECTION 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.

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. |
| Relative density | Not applicable. |
| Density | 8.31 g/cm ³ estimated |
| Solubility(ies) | |
| Solubility (water) | Insoluble. |
| 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

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|---|---|
| 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. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

SECTION 11 Toxicological information

| | |
|--|--|
| Acute toxicity | None known. |
| Routes of exposure | Inhalation. Ingestion. |
| Symptoms | Prolonged exposure may cause chronic effects. |
| 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 | |
| Respiratory sensitization | Not a respiratory sensitizer. |
| Skin sensitizer | May cause sensitization by skin contact. |
| Germ cell mutagenicity | Not classified. |
| Carcinogenicity | Suspected of causing cancer. |

China OELs for hazardous agents in the workplace: Carcinogen Category

| | |
|--|----------------------------|
| CHROMIUM TRIOXIDE, CHROMATE, DICHROMATE, AS CR (CAS 7440-47-3) | Carcinogenic to humans. |
| NICKEL METAL (CAS 7440-02-0) | Possible 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. |

| | |
|---|---|
| Toxic to reproduction | Not classified. |
| Specific target organ toxicity following single exposure | Not classified. |
| Specific target organ toxicity following repeated exposure | May cause damage to organs (respiratory system) through prolonged or repeated exposure. |
| Aspiration hazard | Not an aspiration hazard. |
| Chronic effects | Not available. |

SECTION 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. |
| Other hazardous effects | Not available. |

SECTION 13 Disposal considerations

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|-----------------------------------|--|
| 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

Not regulated as dangerous goods.

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.

SECTION 15 Regulatory information

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

Classification of occupational disease hazards

Chromium (CAS 7440-47-3)

Regulations on the Control over Safety of Dangerous Chemicals

Not regulated.

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

Directory of Highly Toxic Substances

Chromium (CAS 7440-47-3)

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:
Regulations on the Control over Safety of Dangerous Chemicals
Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
Measures for the Safe Use of Chemicals in Workplaces
Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
Packing Symbol of Dangerous Goods(GB190-2009)
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

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