



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 Silicon Product
Synonyms None.
Document number 287
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Version number 01

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Not available.
Uses advised against None known.

1.3. Details of the supplier of the product information sheet

Supplier

Company name Materion Advanced Materials Group
Address 42 Mt. Ebo Road South
Brewster, NY 10509
United States
Division
Telephone Supplier Phone 1+845.279.0900
e-mail Not available.
Contact person Not available.

1.4. Emergency telephone number Chemtrec 1+703.527.3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification F;R11, N;R50/53

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

Health hazards

| | | |
|-----------------------------------|------------|---------------------------------------|
| Acute toxicity, oral | Category 4 | H302 - Harmful if swallowed. |
| Acute toxicity, inhalation | Category 4 | H332 - Harmful if inhaled. |
| Skin corrosion/irritation | Category 2 | H315 - Causes skin irritation. |
| Serious eye damage/eye irritation | Category 2 | H319 - Causes serious eye irritation. |
| Carcinogenicity | Category 2 | H351 - Suspected of causing cancer. |

Environmental hazards

| | | |
|----------------------------------------------------------------|------------|-----------------------------------------------------------|
| Hazardous to the aquatic environment, acute aquatic hazard | Category 1 | H400 - Very toxic to aquatic life. |
| Hazardous to the aquatic environment, long-term aquatic hazard | Category 3 | H412 - Harmful to aquatic life with long lasting effects. |

Hazard summary

Physical hazards Highly flammable.
Health hazards Not classified for health hazards.
Environmental hazards Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards Not available.
Main symptoms Not available.

2.2. Label elements

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

Contains: Chromium, Nickel, Silicon

| | |
|--------------------------|----------------------------------------------------|
| Hazard pictograms | None. |
| Signal word | Warning |
| Hazard statements | |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H351 | Suspected of causing cancer. |
| H400 | Very toxic to aquatic life. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary statements

Prevention

| | |
|------|----------------------------------------------------------------------------|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | Avoid breathing dust. |
| P264 | Wash thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear eye protection/face protection. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

Response

| | |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/attention. |
| P312 | Call a POISON CENTER/doctor if you feel unwell. |
| P330 | Rinse mouth. |
| P332 + P313 | If skin irritation occurs: Get medical advice/attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/attention. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |
| P391 | Collect spillage. |

Storage

| | |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

Disposal

| | |
|------|-----------------------------------------------------------------------------------------------------|
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |
|------|-----------------------------------------------------------------------------------------------------|

Supplemental label information

100 % of the mixture consists of component(s) of unknown acute oral toxicity. 43,72 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 9,09 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | INDEX No. | Notes |
|------------------------|------------------------------------------------------------------------|------------------------|------------------------|-----------|-------|
| Nickel | 40 - < 90 | 7440-02-0 231-111-4 | - | - | M=10 |
| Classification: | DSD: N;R50/53 | | | | |
| | CLP: Carc. 2;H351, Aquatic Acute 1;H400, Aquatic Chronic 3;H412 | | | | |
| Chromium | 20 - < 60 | 7440-47-3 231-157-5 | - | - | # |
| Classification: | DSD: R52/53 | | | | |
| | CLP: Aquatic Chronic 3;H412 | | | | |

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | INDEX No. | Notes |
|------------------------|---------------|------------------------|------------------------|-----------|-------|
| Silicon | 1 - < 20 | 7440-21-3 231-130-8 | - | - | |
| Classification: | DSD: - | | | | |
| | CLP: - | | | | |

SECTION 4: First aid measures

General information Not available.

4.1. Description of first aid measures

Inhalation Not available.

Skin contact Not available.

Eye contact Not available.

Ingestion Not available.

4.2. Most important symptoms and effects, both acute and delayed Not available.

4.3. Indication of any immediate medical attention and special treatment needed Not available.

SECTION 5: Firefighting measures

General fire hazards Not available.

5.1. Extinguishing media

Suitable extinguishing media DRY sand, sodium chloride powder, graphite powder or Met-L-X powder.

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Not available.

For emergency responders Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Not available.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Not available.

7.2. Conditions for safe storage, including any incompatibilities Not available.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Sweden. Occupational Exposure Limit Values

| Components | Type | Value | Form |
|--------------------------|------|-----------------------|-------------|
| Chromium (CAS 7440-47-3) | TWA | 0,5 mg/m ³ | Total dust. |
| Nickel (CAS 7440-02-0) | TWA | 0,5 mg/m ³ | Total dust. |

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/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 Not available.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

General information Not available.

Eye/face protection Not available.

Skin protection

- **Hand protection** Not available.

- **Other** Not available.

Respiratory protection Not available.

Thermal hazards Not available.

Hygiene measures Not available.

Environmental exposure controls Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Solid.

Form Not available.

Colour Not available.

Odour Not applicable.

Odour threshold Not available.

pH Not available.

Melting point/freezing point 1410 °C (2570 °F) estimated

Initial boiling point and boiling range 2355 °C (4271 °F) estimated

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure 0,00001 hPa estimated

Vapour density Not available.

Relative density Not available.

| | |
|------------------------------------------------|----------------|
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Solubility (other) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Explosive properties | Not available. |
| Oxidizing properties | Not available. |

9.2. Other information

| | |
|-------------------------|----------------------------------|
| Density | 7,70 g/cm ³ estimated |
| Specific gravity | 7,7 estimated |

SECTION 10: Stability and reactivity

| | |
|-------------------------------------------------|----------------|
| 10.1. Reactivity | Not available. |
| 10.2. Chemical stability | Not available. |
| 10.3. Possibility of hazardous reactions | Not available. |
| 10.4. Conditions to avoid | Not available. |
| 10.5. Incompatible materials | Not available. |
| 10.6. Hazardous decomposition products | Not available. |

SECTION 11: Toxicological information

| | |
|----------------------------|----------------|
| General information | Not available. |
|----------------------------|----------------|

Information on likely routes of exposure

| | |
|---------------------|----------------|
| Inhalation | Not available. |
| Skin contact | Not available. |
| Eye contact | Not available. |
| Ingestion | Not available. |

| | |
|-----------------|----------------|
| Symptoms | Not available. |
|-----------------|----------------|

11.1. Information on toxicological effects

| | |
|------------------------------------------|--------------------|
| Acute toxicity | No data available. |
| Skin corrosion/irritation | Not available. |
| Serious eye damage/eye irritation | Not available. |
| Respiratory sensitisation | Not available. |
| Skin sensitisation | Not available. |
| Germ cell mutagenicity | Not available. |

Carcinogenicity

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. |

| | |
|-----------------------------------------------------------|----------------|
| Reproductive toxicity | Not available. |
| Specific target organ toxicity - single exposure | Not available. |
| Specific target organ toxicity - repeated exposure | Not available. |
| Aspiration hazard | Not available. |
| Mixture versus substance information | Not available. |
| Other information | Not available. |

SECTION 12: Ecological information

12.1. Toxicity

| Components | Species | Test results |
|--------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------|
| Chromium (CAS 7440-47-3) | | |
| Aquatic | | |
| Fish | LC50 | Carp (Cyprinus carpio) 14,3 mg/l, 96 hours |
| Nickel (CAS 7440-02-0) | | |
| Aquatic | | |
| Crustacea | EC50 | Water flea (Daphnia magna) 1 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) 2,923 mg/l, 96 hours |
| 12.2. Persistence and degradability | Not available. | |
| 12.3. Bioaccumulative potential | Not available. | |
| Partition coefficient n-octanol/water (log Kow) | Not available. | |
| Bioconcentration factor (BCF) | Not available. | |
| 12.4. Mobility in soil | Not available. | |
| 12.5. Results of PBT and vPvB assessment | Not a PBT or vPvB substance or mixture. | |
| 12.6. Other adverse effects | Not available. | |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------------|----------------|
| Residual waste | Not available. |
| Contaminated packaging | Not available. |
| EU waste code | Not available. |

SECTION 14: Transport information

ADR

| | |
|-------------------------------------------|----------------------------------------------|
| 14.1. UN number | UN3178 |
| 14.2. UN proper shipping name | Flammable solid, inorganic, n.o.s. (Silicon) |
| 14.3. Transport hazard class(es) | |
| Class | 4.1 |
| Subsidiary risk | - |
| Label(s) | 4.1 |
| Hazard No. (ADR) | 40 |
| Tunnel restriction code | E |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not available. |

RID

| | |
|-------------------------------------------|----------------------------------------------|
| 14.1. UN number | UN3178 |
| 14.2. UN proper shipping name | Flammable solid, inorganic, n.o.s. (Silicon) |
| 14.3. Transport hazard class(es) | |
| Class | 4.1 |
| Subsidiary risk | - |
| Label(s) | 4.1 |
| 14.4. Packing group | III |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not available. |

ADN

| | |
|--------------------------------------|-----------------------------------|
| 14.1. UN number | UN3178 |
| 14.2. UN proper shipping name | Flammable Solid, N.o.s. (Silicon) |

14.3. Transport hazard class(es)

Class 4.1

Subsidiary risk -

Label(s) 4.1

14.4. Packing group III

14.5. Environmental hazards No.

14.6. Special precautions for user Not available.

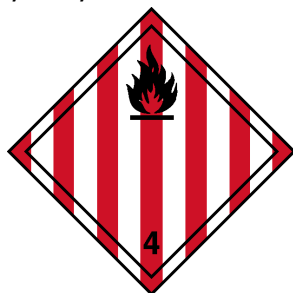
IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

ADN; ADR; RID



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, as amended

Not listed.

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

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Nickel (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.

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use

Nickel (CAS 7440-02-0)

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.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

Not listed.

Directive 94/33/EC on the protection of young people at work, as amended

Not listed.

National regulations Not available.

15.2. Chemical safety assessment Not available.

SECTION 16: Other information

List of abbreviations Not available.

References Not available.

Information on evaluation method leading to the classification of mixture Not available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R11 Highly flammable.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Revision information None.

Training information Not available.