



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 Vanadium Targets
Registration number -
Document number G22
Synonyms None.
Issue date 14-January-2019
Version number 03
Revision date 26-July-2021
Supersedes date 02-February-2021

1.3. Details of the supplier of the product information sheet

Supplier

Company name Materion Advanced Materials
Address 6070 Parkland Boulevard
United States
Division
Telephone 1.216.383.4019
e-mail ehs@materion.com
Contact person Theodore Knudson

1.4. Emergency telephone number See Section 16.

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

Identified uses Manufacture of computer, electronic and optical products, electrical equipment
Scientific research and development
Other: Manufacture of medical and defense equipment
Uses advised against Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Consumer uses: Private households (= general public = consumers)

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Materials
Address 6070 Parkland Boulevard
United States
Division
Telephone 1.216.383.4019
e-mail ehs@materion.com
Contact person Theodore Knudson

1.4. Emergency telephone number See Section 16.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

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

Health hazards

| | | |
|----------------------------------------------------|------------|------------------------------------------------------------------------|
| Skin sensitisation | Category 1 | H317 - May cause an allergic skin reaction. |
| Carcinogenicity | Category 2 | H351 - Suspected of causing cancer. |
| Specific target organ toxicity - repeated exposure | Category 1 | H372 - Causes damage to organs through prolonged or repeated exposure. |

Hazard summary

May cause an allergic skin reaction. Suspected of causing cancer. Prolonged exposure may cause chronic effects.

2.2. Label elements

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

Contains: NICKEL POWDER; [PARTICLE DIAMETER < 1MM], Vanadium

Hazard pictograms



Signal word

Danger

Hazard statements

H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary statements

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/vapours/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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of water.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage

P405 Store locked up.

Disposal

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

Supplemental label information

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

2.3. Other hazards

Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | Index No. | Notes |
|----------------------------------------------------------------------------------------|---------|------------------------|------------------------|--------------|-------|
| NICKEL POWDER; [PARTICLE DIAMETER < 1MM] | 50 - 95 | 7440-02-0 231-111-4 | 01-2119438727-29-0049 | 028-002-00-7 | |
| Classification: Skin Sens. 1;H317, STOT SE 3;H335, Carc. 2;H351, STOT RE 2;H373 | | | | | 7,S |
| Vanadium | 5 - 50 | 7440-62-2 231-171-1 | - | - | |
| Classification: - | | | | | |

SECTION 4: First aid measures

General information

If you feel unwell, seek medical advice (show the label where possible).

4.1. Description of first aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Powder. Dry sand. Water Spray or Fog

Unsuitable extinguishing media Carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture No unusual fire or explosion hazards noted.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear suitable protective equipment.

Special firefighting procedures Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the PIS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the PIS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Stop the flow of material, if this is without risk. For waste disposal, see section 13 of the PIS.

6.4. Reference to other sections For personal protection, see section 8 of the PIS. For waste disposal, see section 13 of the PIS.

SECTION 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

| Components | Type | Value |
|----------------------------------------------------------------|------|---------------------|
| NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (CAS 7440-02-0) | VME | 1 mg/m ³ |

Regulatory status: Indicative limit (VL)

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

| | |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appropriate engineering controls | 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. |
| Individual protection measures, such as personal protective equipment | |
| General information | Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. |
| Eye/face protection | If contact is likely, safety glasses with side shields are recommended. |
| Skin protection | |
| - Hand protection | Wear gloves to prevent metal cuts and skin abrasions during handling. |
| - Other | Use personal protective equipment as required. |
| Respiratory protection | In case of inadequate ventilation, use respiratory protection. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| Hygiene measures | Observe any medical surveillance requirements. Contaminated work clothing should not be allowed out of the workplace. |
| Environmental exposure controls | 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. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

| | |
|-----------------------|-----------|
| Physical state | Solid. |
| Form | Solid. |
| Colour | Metallic. |

Odour None.

Odour threshold Not applicable.

pH Not applicable.

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

Initial boiling point and boiling range Not applicable.

Flash point Not applicable.

Evaporation rate Not applicable.

Flammability (solid, gas) None known.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not applicable.

Explosive limit - lower (%) temperature Not applicable.

Explosive limit – upper (%) Not applicable.

Explosive limit - upper (%) temperature Not applicable.

Vapour pressure Not applicable.

Vapour density Not applicable.

Relative density Not applicable.

Solubility(ies)

Solubility (water) Insoluble.

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

Auto-ignition temperature Not applicable.

Decomposition temperature Not applicable.

Viscosity Not applicable.

Explosive properties Not explosive.

Oxidising properties Not oxidising.

9.2. Other information

Density 7,94 g/cm³ estimated

SECTION 10: Stability and reactivity

- 10.1. Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.
- 10.2. Chemical stability** Material is stable under normal conditions.
- 10.3. Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.
- 10.4. Conditions to avoid** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
- 10.5. Incompatible materials** Strong acids.
- 10.6. Hazardous decomposition products** No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

- Inhalation** Prolonged inhalation may be harmful.
- Skin contact** May cause an allergic skin reaction.
- Eye contact** Not likely, due to the form of the product.
- Ingestion** Expected to be a low ingestion hazard.

Symptoms May cause respiratory irritation. May cause an allergic skin reaction. Dermatitis. Rash.

11.1. Information on toxicological effects

- Acute toxicity** None known.
- Skin corrosion/irritation** May cause skin irritation.
- Serious eye damage/eye irritation** Not likely, due to the form of the product.
- Respiratory sensitisation** Not a respiratory sensitizer.
- Skin sensitisation** May cause an allergic skin reaction.
- Germ cell mutagenicity** Not classified.
- Carcinogenicity** Suspected of causing cancer.
- IARC Monographs. Overall Evaluation of Carcinogenicity**
NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (CAS 7440-02-0) 2B Possibly carcinogenic to humans.
- Reproductive toxicity** Not classified.
- Specific target organ toxicity - single exposure** Not classified.
- Specific target organ toxicity - repeated exposure** May cause damage to organs through prolonged or repeated exposure.
- Aspiration hazard** Not an aspiration hazard.
- Mixture versus substance information** No information available.
- Other information** Not available.

SECTION 12: Ecological information

12.1. Toxicity Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

| Product | Species | Test Results |
|-------------------------|-----------|-------------------------------|
| Nickel Vanadium Targets | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Fish | LC50 Fish | 0,0632 mg/l, 4 days estimated |

| Components | Species | Test Results |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (CAS 7440-02-0) | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) |
| | | 0,06 mg/l, 4 days |
| 12.2. Persistence and degradability | No data is available on the degradability of any ingredients in the mixture. | |
| 12.3. Bioaccumulative potential | No data available. | |
| Partition coefficient n-octanol/water (log Kow) | Not applicable. | |
| Bioconcentration factor (BCF) | Not available. | |
| 12.4. Mobility in soil | No data available. | |
| 12.5. Results of PBT and vPvB assessment | Not a PBT or vPvB substance or mixture. | |
| 12.6. Other adverse 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

13.1. Waste treatment methods

| | |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| EU waste code | The Waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Disposal methods/information | 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. |
| Special precautions | Dispose in accordance with all applicable regulations. |

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

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 and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

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

NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (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.

Restrictions on use

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

NICKEL POWDER; [PARTICLE DIAMETER < 1MM] (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.

Other EU regulations

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

Not listed.

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

References

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under Sections 2 to 15

H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

Revision information

Product and Company Identification: Product and Company Identification

Training information

Follow training instructions when handling this material.

Disclaimer

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