



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier **NiWTa Alloy Powder**

Other means of identification

SDS number Q01

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Advanced Materials Technologies and Services Inc.

Address 6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States

Telephone 1.800.862.4118

Website materion.com

E-mail ehs@materion.com

Contact person Ted Knudson

Emergency phone number 1.800.862.4118

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

| | |
|---|---|
| Serious eye damage/eye irritation | Category 2B |
| Sensitization, skin | Category 1 |
| Carcinogenicity | Category 2 |
| Specific target organ toxicity, single exposure | Category 3 respiratory tract irritation |
| Specific target organ toxicity, repeated exposure | Category 1 |

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement May cause an allergic skin reaction. Causes eye irritation. May cause respiratory irritation. Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin: Wash with plenty of water. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse.

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| Storage | Store in a well-ventilated place. Keep container tightly closed. Store locked up. |
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Hazard(s) not otherwise classified (HNOC) | None known. |
| Supplemental information | For further information, please contact the Product Stewardship Department at +1.800.862.4118. |

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|---------------|--------------------------|------------|---------|
| Nickel | | 7440-02-0 | 38 - 42 |
| Tungsten | | 7440-33-7 | 38 - 42 |
| Tantalum | | 7440-25-7 | 18 - 22 |

4. First-aid measures

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|---|---|
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| Skin contact | Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Nausea. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation. Coughing. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. |

5. Fire-fighting measures

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| Suitable extinguishing media | Dry powder. Dry sand. |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO2). |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire fighting equipment/instructions | 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. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

| Components | Type | Value | Form |
|--------------------------|------|---------------------|-------|
| Nickel (CAS 7440-02-0) | PEL | 1 mg/m ³ | |
| Tantalum (CAS 7440-25-7) | PEL | 5 mg/m ³ | Dust. |

US. OSHA Table Z-3 (29 CFR 1910.1000)

| Components | Type | Value | Form |
|--------------------------|------|----------------------|----------------------|
| Tantalum (CAS 7440-25-7) | TWA | 5 mg/m ³ | Respirable fraction. |
| | | 15 mg/m ³ | Total dust. |
| | | 50 mppcf | Total dust. |
| | | 15 mppcf | Respirable fraction. |

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|--------------------------|------|-----------------------|----------------------|
| Nickel (CAS 7440-02-0) | TWA | 1.5 mg/m ³ | Inhalable fraction. |
| Tungsten (CAS 7440-33-7) | TWA | 3 mg/m ³ | Respirable fraction. |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value | Form |
|--------------------------|------|-------------------------|-------|
| Nickel (CAS 7440-02-0) | TWA | 0.015 mg/m ³ | |
| Tantalum (CAS 7440-25-7) | STEL | 10 mg/m ³ | Dust. |
| | TWA | 5 mg/m ³ | Dust. |
| Tungsten (CAS 7440-33-7) | STEL | 10 mg/m ³ | |
| | TWA | 5 mg/m ³ | |

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

| Components | Type | Value | Form |
|--------------------------|------|-----------------------|-------|
| Nickel (CAS 7440-02-0) | PEL | 0.5 mg/m ³ | |
| Tantalum (CAS 7440-25-7) | PEL | 5 mg/m ³ | Dust. |
| Tungsten (CAS 7440-33-7) | PEL | 5 mg/m ³ | |

Biological limit values

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

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) 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. Provide eyewash station.

Control parameters

Follow standard monitoring procedures.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

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| Respiratory protection | In case of insufficient ventilation, wear suitable respiratory equipment. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | 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. Contaminated work clothing should not be allowed out of the workplace. |

9. Physical and chemical properties

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|---|-----------------------------------|
| Appearance | Solid. |
| Physical state | Solid. |
| Form | Powder |
| Color | Grey. |
| Odor | Not applicable. |
| Odor threshold | Not applicable. |
| pH | Not applicable. |
| Melting point/freezing point | 2651 °F (1455 °C) estimated |
| Initial boiling point and boiling range | 4946 °F (2730 °C) estimated |
| Flash point | Not applicable. |
| Evaporation rate | Not applicable. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit - upper (%) | Not available. |
| Vapor pressure | 0.26 hPa estimated |
| Vapor density | Not applicable. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not applicable. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Density | 14.16 g/cm ³ estimated |
| Explosive properties | Not explosive. |
| Oxidizing properties | Not oxidizing. |
| pH in aqueous solution | Not applicable. |
| Specific gravity | 14.16 estimated |

10. Stability and reactivity

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| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |

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| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong acids. Strong oxidizing agents. Fluorine. Chlorine. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

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| Inhalation | May cause irritation to the respiratory system. Prolonged inhalation may be harmful. |
| Skin contact | May cause an allergic skin reaction. |
| Eye contact | Causes eye irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

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| Symptoms related to the physical, chemical and toxicological characteristics | Nausea. Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause respiratory irritation. Coughing. May cause an allergic skin reaction. Dermatitis. Rash. |
|---|---|

Information on toxicological effects

| | |
|--|--|
| Acute toxicity | Not known. |
| Skin corrosion/irritation | Prolonged skin contact may cause temporary irritation. |
| Serious eye damage/eye irritation | Causes eye irritation. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not a respiratory sensitizer. |
| Skin sensitization | May cause an allergic skin reaction. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | Suspected of causing cancer. |

IARC Monographs. Overall Evaluation of Carcinogenicity

Nickel (CAS 7440-02-0) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Nickel (CAS 7440-02-0) Known To Be Human Carcinogen.
Reasonably Anticipated to be a Human Carcinogen.

| | |
|---|--|
| Reproductive toxicity | This product is not expected to cause reproductive or developmental effects. |
| Specific target organ toxicity - single exposure | May cause respiratory irritation. |
| Specific target organ toxicity - repeated exposure | Causes damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | Not applicable. |
| Chronic effects | Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. |

12. Ecological information

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|--------------------------------------|--|
| 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 | |
| Bioaccumulative potential | No data available. |
| Mobility in soil | No data available. |
| 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. |

13. Disposal considerations

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| Disposal instructions | 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. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | 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. |

14. Transport information

| | |
|-------------|-----------------------------------|
| DOT | Not regulated as dangerous goods. |
| IATA | Not regulated as dangerous goods. |
| IMDG | Not regulated as dangerous goods. |

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Nickel (CAS 7440-02-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

| Chemical name | CAS number | % by wt. |
|----------------------|-------------------|-----------------|
| Nickel | 7440-02-0 | 38 - 42 |

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Nickel (CAS 7440-02-0)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Nickel (CAS 7440-02-0)

Listed: October 1, 1989

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Nickel (CAS 7440-02-0)

Tungsten (CAS 7440-33-7)

16. Other information, including date of preparation or last revision

Issue date 06-19-2018

Version # 01

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