



# SAFETY DATA SHEET

MATERION

## Section 1: Identification of the chemical and of the supplier

<b>Product identifier</b>	<b>Nickel Product</b>	
<b>Other means of identification</b>		
<b>SDS number</b>	WAMTF-010	
<b>Recommended use of the chemical and restrictions on use</b>		
<b>Recommended use</b>	Not available.	
<b>Recommended restrictions</b>	None known.	
<b>Details of principal suppliers</b>		
<b>Manufacturer</b>		
<b>Company name</b>	Materion Advanced Materials Group	
<b>Address</b>	42 Mt. Ebo Road South Brewster, NY 10509 United States	
<b>Telephone</b>	Supplier Phone	1+845.279.0900
<b>Website</b>	materion.com	
<b>e-mail</b>	Not available.	
<b>Emergency phone number</b>	Chemtrec	1+703.527.3887

## Section 2: Hazard identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Carcinogenicity	Category 2
<b>Environmental hazards</b>	Hazardous to the aquatic environment - acute hazard	Category 1
	Hazardous to the aquatic environment - chronic hazard	Category 1

### Label elements



**Signal word** Danger

**Hazard statement** The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated. May cause an allergic skin reaction. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs ( ). Causes damage to organs (respiratory system) through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects. May cause long lasting harmful effects to aquatic life.

### Precautionary statement

<b>Prevention</b>	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear eye/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.
<b>Response</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Call a POISON CENTRE/doctor. Specific treatment (see this label). If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Collect spillage.
<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents/container (in accordance with related regulations). Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other hazards which do not result in classification** None known.

**Supplemental information** 100 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. Not applicable.

### Section 3: Composition and information of the ingredients of the hazardous chemical

#### Substance

Chemical name	Common name and synonyms	CAS number	%
Nickel		7440-02-0	99.9 - 100

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret. #: This substance has been assigned Community workplace exposure limit(s).

**Composition comments** The full text for all R- and H-phrases is displayed in section 16.

### Section 4: First-aid measures

<b>Inhalation</b>	If inhalation of gas/fume/vapour/dust/mist from the material is excessive (air concentration is greater than the TLV or health effects are noticed), immediately remove the affected person(s) to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control centre immediately.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention immediately. Take off contaminated clothing and wash before reuse. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention immediately.
<b>Ingestion</b>	IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
<b>Most important symptoms/effects, acute and delayed</b>	May cause allergic respiratory reaction. Proteinuria. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. Oedema. Prolonged exposure may cause chronic effects.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	In case of shortness of breath, give oxygen. 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. Show this safety data sheet to the doctor in attendance. Keep victim under observation. Keep victim warm. Wash contaminated clothing before reuse.

### Section 5: Fire-fighting measures

<b>Suitable extinguishing media</b>	Dry sand. DRY sand, sodium chloride powder, graphite powder or Met-L-X powder.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO <sub>2</sub> ).
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.

**Fire fighting equipment/instructions**

In case of fire and/or explosion do not breathe fumes. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

**Hazchem Code**

None.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.

**General fire hazards**

No unusual fire or explosion hazards noted.

**Section 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Environmental precautions**

Avoid release to the environment. Refer to special instructions/safety data sheets. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**Methods and materials for containment and cleaning up**

Collect spillage. The product is immiscible with water and will spread on the water surface. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

**Section 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. Will ignite if exposed to intensive heat or open air. Minimise dust generation and accumulation. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. All equipment used when handling the product must be grounded. Do not breathe dust. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Avoid contact with clothing. When using, do not eat, drink or smoke. Use only in area provided with appropriate exhaust ventilation. Wear appropriate personal protective equipment. Wash thoroughly after handling. Avoid release to the environment. Do not empty into drains. Use appropriate container to avoid environmental contamination. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

CAUTION  
Store locked up. The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Use appropriate container to avoid environmental contamination. Store in a closed container away from incompatible materials. Keep container tightly closed. Store in a well-ventilated place. Keep container dry. Store in cool place. Keep away from food, drink and animal feeding stuffs. Keep out of the reach of children. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

**Section 8: Exposure controls and personal protection**

**Occupational exposure limits**

**Malaysia. OELs. (Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations)**

Material	Type	Value	Form
Nickel Product	TWA	1.5 mg/m3	Inhalable fraction.
<b>Components</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.

**US. ACGIH Threshold Limit Values**

Material	Type	Value	Form
Nickel Product	TWA	1.5 mg/m3	Inhalable fraction.
<b>Components</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Nickel (CAS 7440-02-0)	TWA	1.5 mg/m3	Inhalable fraction.

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	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. Ensure adequate ventilation, especially in confined areas. Provide eyewash station.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Face-shield. Wear a full-face respirator, if needed. Avoid contact with eyes. Eye wash fountain is recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Not normally needed. Wear appropriate chemical resistant gloves.
<b>Other</b>	Avoid contact with the skin. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
<b>Respiratory protection</b>	Wear positive pressure self-contained breathing apparatus (SCBA).
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	When using, do not eat, drink or smoke. Avoid contact with clothing. 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. Contaminated work clothing should not be allowed out of the workplace.

## Section 9: Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Colour</b>	Not available.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	1455 °C (2651 °F)
<b>Initial boiling point and boiling range</b>	2730 °C (4946 °F)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Flammable solid.

### Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit – upper (%)</b>	Not available.

<b>Vapour pressure</b>	< 0.0000001 kPa at 25 °C
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	8.91 g/cm <sup>3</sup> estimated
<b>Molecular formula</b>	Ni

<b>Molecular weight</b>	58.69 g/mol
<b>Specific gravity</b>	8.91

## Section 10: Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Risk of explosion.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use. Hazardous polymerisation does not occur.
<b>Conditions to avoid</b>	Exposure to air. Heat, flames and sparks. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong acids. Oxygen.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## Section 11: Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Irritating to respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Irritating to skin. May cause an allergic skin reaction. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	May cause discomfort if swallowed. Expected to be a low ingestion hazard. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms related to the physical, chemical and toxicological characteristics** Proteinuria. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct contact with eyes may cause temporary irritation. Exposure may cause temporary irritation, redness, or discomfort. May cause an allergic skin reaction. Dermatitis. Rash. Oedema.

### Information on toxicological effects

<b>Acute toxicity</b>	May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation. Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.

### Respiratory or skin sensitisation

<b>Respiratory sensitisation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Skin sensitisation</b>	Irritating to skin. May cause an allergic skin reaction. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Hazardous by OSHA criteria. Suspected of causing cancer.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

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

#### US NTP Report on Carcinogens: Anticipated carcinogen

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

#### US NTP Report on Carcinogens: Known carcinogen

Nickel (CAS 7440-02-0) Known To Be Human Carcinogen.

**Reproductive toxicity** May damage fertility or the unborn child. This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Causes damage to organs ().

**Specific target organ toxicity - repeated exposure** Causes damage to organs () through prolonged or repeated exposure.

**Aspiration hazard** Due to partial or complete lack of data the classification is not possible.

**Chronic effects** Hazardous by OSHA criteria. Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Prolonged or repeated exposure may cause lung injury.

## Section 12: Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product	Species		Test results
Nickel Product			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	1 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	2.923 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	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 information

<b>Disposal instructions</b>	Contract with a disposal operator licensed by the Law on Disposal and Cleaning. This material and its container must be disposed of as hazardous waste. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. After recovery of solvent dispose of residue as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose of contents/container (in accordance with related regulations). When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Waste from residues / unused products</b>	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). Avoid discharge into water courses or onto the ground.
<b>Contaminated packaging</b>	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.

## Section 14: Transportation information

### ADR

<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (Nickel Product)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Hazard No. (ADR)</b>	90
<b>Tunnel restriction code</b>	E
<b>Packing group</b>	III
<b>Environmental hazards</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### RID

<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (Nickel Product)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	No.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IATA

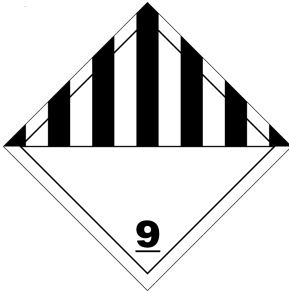
Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

ADR; RID



Hazchem Code None.

## Section 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

**Active Ingredients of Pesticide Product (Pesticide Act 1974, First Schedule, as amended through October 1, 2004)**

Not regulated.

**CWC (Chemical Weapons Convention) Act 2005, Schedules 1-3, as amended through CWC Regulations 2007, October 5, 2007)**

Not regulated.

**Ozone Depleting Substances (ODS) (Environmental Quality (Prohibition on the Use of CFC and Other Gases as Propellants and Blowing Agents) Order 1993, Dec. 31, 1993)**

Not regulated.

**Prohibited Use of Substances [Occupational Safety and Health (Prohibition of Use of Substance) Order 1999]**

Not regulated.

### International regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

#### Stockholm Convention

Not applicable.

#### Rotterdam Convention

Not applicable.

#### Montreal Protocol

Not applicable.

#### Kyoto protocol

Not applicable.

#### Basel Convention

Not applicable.

## Section 16: Other information

**Issue date** 27-August-2018

**Version No.** 01

**Further information** HMIS® is a registered trade and service mark of the NPCA.

**List of abbreviations** Not available.

### References

ACGIH

EPA: AQUIRE database

NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents

HSDB® - Hazardous Substances Data Bank

IARC Monographs. Overall Evaluation of Carcinogenicity

National Toxicology Program (NTP) Report on Carcinogens

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits

GOST 30333-2007 - Chemical production safety passport. General requirements

JIS Z 7252:2009 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

JIS Z 7253:2012 Hazard communication of chemicals based on GHS – Labelling and Safety Data Sheet (SDS)

Japan Chemical Industry Association (JCIA) GHS Guideline, June 2012

**Disclaimer**

This safety data sheet was prepared in accordance with JIS Z 7253:2012.

Additional information is given in the Material Safety Data Sheet.

To avoid any misunderstandings or incorrect assumptions by the receiver of the safety information, it should be made clear that the supplied information is not in the form of a Safety Data Sheet (SDS), but is actually a voluntary Product Information Sheet closely following the guidelines of the Safety Data Sheet – COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 (REACH/SDS). Materion Advanced Materials Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

**Revision information**

Product and Company Identification: Product Review

Hazards Identification: EU Hazard Classifications

Composition / Information on Ingredients: Ingredients

Transport Information: Proper Shipping Name/Packing Group

GHS: Classification