



# 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 Iron Titanium Products  
**Synonyms** None.  
**Document number** 318  
**Issue date** 28-October-2015  
**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 Regulation (EC) No 1272/2008 as amended

**Health hazards**  
Carcinogenicity Category 2 H351 - Suspected of causing cancer.

**Environmental hazards**  
Hazardous to the aquatic environment, long-term aquatic hazard Category 3 H412 - Harmful to aquatic life with long lasting effects.

**Hazard summary** Prolonged exposure may cause chronic effects.

### 2.2. Label elements

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

**Contains:** Iron, Nickel, Titanium

#### Hazard pictograms



**Signal word** Warning

#### Hazard statements

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.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response**P308 + P313  
P391IF exposed or concerned: Get medical advice/attention.  
Collect spillage.**Storage**

P405

Store locked up.

**Disposal**

P501

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

**Supplemental label information**% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.  
28,96 % 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 - < 98	7440-02-0 231-111-4	-	-	
<b>Classification:</b>	Carc. 2;H351, Aquatic Chronic 3;H412				
Titanium	1 - < 30	7440-32-6 231-142-3	-	-	
<b>Classification:</b>	-				
Iron	1 - < 25	7439-89-6 231-096-4	-	-	
<b>Classification:</b>	-				

**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.**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire. Carbon dioxide (CO2). Use class D extinguishing agents, dry sand or sodium chloride on fire.**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

<b>For non-emergency personnel</b>	Keep unnecessary personnel away. For personal protection, see section 8.
<b>For emergency responders</b>	Not available.

### 6.2. Environmental precautions

Not available.

### 6.3. Methods and material for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

### 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Not available.

### 7.2. Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. 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

##### Austria. TRK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	STEL	2 mg/m <sup>3</sup>	Inhalable dust.
	TWA	0,5 mg/m <sup>3</sup>	Inhalable dust.

##### Belgium. Exposure Limit Values.

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	1 mg/m <sup>3</sup>

##### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Iron (CAS 7439-89-6)	TWA	6 mg/m <sup>3</sup>	Inhalable fraction.
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m <sup>3</sup>	
Titanium (CAS 7440-32-6)	TWA	1 mg/m <sup>3</sup>	

##### Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value
Nickel (CAS 7440-02-0)	MAC	0,5 mg/m <sup>3</sup>

##### Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	1 mg/m <sup>3</sup>

##### Czech Republic. OELs. Government Decree 361

Components	Type	Value
Iron (CAS 7439-89-6)	TWA	10 mg/m <sup>3</sup>
Nickel (CAS 7440-02-0)	Ceiling	1 mg/m <sup>3</sup>
	TWA	0,5 mg/m <sup>3</sup>

##### Denmark. Exposure Limit Values

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m <sup>3</sup>	Dust.

##### Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>

**Finland. Workplace Exposure Limits**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,01 mg/m <sup>3</sup>	Respirable.

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

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	VME	1 mg/m <sup>3</sup>	

**Greece. OELs (Decree No. 90/1999, as amended)**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	1 mg/m <sup>3</sup>	

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	Ceiling	0,1 mg/m <sup>3</sup>	

**Iceland. OELs. Regulation 154/1999 on occupational exposure limits**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m <sup>3</sup>	Dust.

**Ireland. Occupational Exposure Limits**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>	

**Italy. Occupational Exposure Limits**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	1,5 mg/m <sup>3</sup>	Inhalable fraction.

**Latvia. OELs. Occupational exposure limit values of chemical substances in work environment**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m <sup>3</sup>	
Titanium (CAS 7440-32-6)	TWA	10 mg/m <sup>3</sup>	

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>	

**Norway. Administrative Norms for Contaminants in the Workplace**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m <sup>3</sup>	

**Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,25 mg/m <sup>3</sup>	
Titanium (CAS 7440-32-6)	STEL	30 mg/m <sup>3</sup>	
	TWA	10 mg/m <sup>3</sup>	

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	1,5 mg/m <sup>3</sup>	Inhalable fraction.

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	STEL	0,5 mg/m <sup>3</sup>	
	TWA	0,1 mg/m <sup>3</sup>	
Titanium (CAS 7440-32-6)	STEL	15 mg/m <sup>3</sup>	
	TWA	10 mg/m <sup>3</sup>	

**Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents**

Components	Type	Value	Form
Iron (CAS 7439-89-6)	TWA	6 mg/m <sup>3</sup>	

**Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>	Inhalable fraction.

<b>Spain. Occupational Exposure Limits Components</b>		<b>Type</b>	<b>Value</b>	
Nickel (CAS 7440-02-0)		TWA	1 mg/m <sup>3</sup>	
<b>Sweden. Occupational Exposure Limit Values Components</b>		<b>Type</b>	<b>Value</b>	<b>Form</b>
Nickel (CAS 7440-02-0)		TWA	0,5 mg/m <sup>3</sup>	Total dust.
<b>Switzerland. SUVA Grenzwerte am Arbeitsplatz Components</b>		<b>Type</b>	<b>Value</b>	<b>Form</b>
Nickel (CAS 7440-02-0)		TWA	0,5 mg/m <sup>3</sup>	Inhalable dust.
<b>UK. EH40 Workplace Exposure Limits (WELs) Components</b>		<b>Type</b>	<b>Value</b>	
Nickel (CAS 7440-02-0)		TWA	0,5 mg/m <sup>3</sup>	

#### Biological limit values

##### **Czech Republic. Limit Values for Indicators of Biological Exposure Tests in Urine and Blood, Annex 2, Tables 1 and 2, Government Decree 432/2003 Sb.**

Components	Value	Determinant	Specimen	Sampling time
Nickel (CAS 7440-02-0)	0,077 µmol/mmol	Nickel	Creatinine in urine	*
	0,04 mg/g	Nickel	Creatinine in urine	*

\* - For sampling details, please see the source document.

##### **Finland. HTP-arvot, App 2., Biological Limit Values, (BRA/BGV) , Social Affairs and Ministry of Health Components**

Components	Value	Determinant	Specimen	Sampling time
Nickel (CAS 7440-02-0)	0,1 µmol/l	Nickel	Urine	*

\* - For sampling details, please see the source document.

##### **Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices**

Components	Value	Determinant	Specimen	Sampling time
Nickel (CAS 7440-02-0)	0,02 mg/g	Nickel	Creatinine in urine	*
	0,038 µmol/mmol	Nickel	Creatinine in urine	*

\* - For sampling details, please see the source document.

##### **Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)**

Components	Value	Determinant	Specimen	Sampling time
Nickel (CAS 7440-02-0)	45 µg/l	Nickel	Urine	*

\* - For sampling details, please see the source document.

**Recommended monitoring procedures** Follow standard monitoring procedures.

**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**

**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** Solid.

**Colour** Not available.

**Odour** Not applicable.

**Odour threshold** Not available.

**pH** Not available.

**Melting point/freezing point** 1455 °C (2651 °F) estimated

**Initial boiling point and boiling range** 2730 °C (4946 °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** 250 °C (482 °F) estimated

**Decomposition temperature** Not available.

**Viscosity** Not available.

**Explosive properties** Not available.

**Oxidising properties** Not available.

### 9.2. Other information

**Density** 8,10 g/cm<sup>3</sup> estimated

**Specific gravity** 8,1 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** Contact with incompatible materials.

**10.5. Incompatible materials** Strong acids.

**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

<b>Acute toxicity</b>	No data available.
<b>Skin corrosion/irritation</b>	Not available.
<b>Serious eye damage/eye irritation</b>	Not available.
<b>Respiratory sensitisation</b>	Not available.
<b>Skin sensitisation</b>	Not available.
<b>Germ cell mutagenicity</b>	Not available.
<b>Carcinogenicity</b>	Risk of cancer cannot be excluded with prolonged exposure.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

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

<b>Reproductive toxicity</b>	Not available.
<b>Specific target organ toxicity - single exposure</b>	Not available.
<b>Specific target organ toxicity - repeated exposure</b>	Not available.
<b>Aspiration hazard</b>	Not available.
<b>Mixture versus substance information</b>	Not available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	No toxicity data noted for the ingredient(s).
<b>12.2. Persistence and degradability</b>	Not available.
<b>12.3. Bioaccumulative potential</b>	Not available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not available.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	Not available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</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).
<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.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

<b>14.1. UN number</b>	UN3077
<b>14.2. UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>14.3. 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>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### RID

<b>14.1. UN number</b>	UN3077
<b>14.2. UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s.
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	No.
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### ADN

<b>14.1. UN number</b>	UN3077
<b>14.2. UN proper shipping name</b>	Environmentally Hazardous Solid, N.o.s.
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	9
<b>14.4. Packing group</b>	III
<b>14.5. Environmental hazards</b>	No.
<b>14.6. 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.

#### 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 and 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.

**Restrictions on use**

**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.

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

Nickel (CAS 7440-02-0)

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

Follow national regulation for work with chemical agents.

**15.2. Chemical safety assessment**

Not available.

**SECTION 16: Other information**

**Further information**

Not available.

**Disclaimer**

Materion Brewster LLC 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