



# 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 - Tungsten Product  
**Synonyms** None.  
**Document number** 249  
**Issue date** 02-June-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 Directive 67/548/EEC or 1999/45/EC as amended**

**Classification** N;R50/53

**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, 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** Not classified for physical hazards.  
**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:** Nickel, Tungsten  
**Hazard pictograms** None.  
**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 IF exposed or concerned: Get medical advice/attention.  
 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**

4,5 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 4,5 % 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	94 - 97	7440-02-0 231-111-4	-	-	M=10
<b>Classification:</b>	<b>DSD:</b> N;R50/53				
	<b>CLP:</b> Carc. 2;H351, Aquatic Acute 1;H400, Aquatic Chronic 3;H412				
Tungsten	3 - < 6	7440-33-7 231-143-9	-	-	
<b>Classification:</b>	<b>DSD:</b> -				
	<b>CLP:</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, 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

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

Components	Type	Value	Form
Tungsten (CAS 7440-33-7)	MAK	5 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	10 mg/m <sup>3</sup>	Inhalable fraction.

##### 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>
Tungsten (CAS 7440-33-7)	STEL	10 mg/m <sup>3</sup>
	TWA	5 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
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m <sup>3</sup>
Tungsten (CAS 7440-33-7)	STEL	10 mg/m <sup>3</sup>
	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>
Tungsten (CAS 7440-33-7)	MAC	5 mg/m <sup>3</sup>
	STEL	3 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
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.
Tungsten (CAS 7440-33-7)	TLV	5 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>
Tungsten (CAS 7440-33-7)	TWA	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.
Tungsten (CAS 7440-33-7)	TWA	5 mg/m <sup>3</sup>	

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

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

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

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

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

Components	Type	Value
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.
Tungsten (CAS 7440-33-7)	TWA	5 mg/m <sup>3</sup>	Dust.

**Ireland. Occupational Exposure Limits**

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>
Tungsten (CAS 7440-33-7)	STEL	10 mg/m <sup>3</sup>
	TWA	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.
Tungsten (CAS 7440-33-7)	STEL	10 mg/m <sup>3</sup>	
	TWA	5 mg/m <sup>3</sup>	

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

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

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

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>
Tungsten (CAS 7440-33-7)	TWA	5 mg/m <sup>3</sup>

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

Components	Type	Value
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m <sup>3</sup>
Tungsten (CAS 7440-33-7)	TLV	5 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>	

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

Components	Type	Value	Form
Tungsten (CAS 7440-33-7)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.

**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.
Tungsten (CAS 7440-33-7)	STEL	10 mg/m <sup>3</sup>	
	TWA	5 mg/m <sup>3</sup>	

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

Components	Type	Value
Nickel (CAS 7440-02-0)	STEL	0,5 mg/m <sup>3</sup>
	TWA	0,1 mg/m <sup>3</sup>
Tungsten (CAS 7440-33-7)	STEL	6 mg/m <sup>3</sup>
	TWA	2 mg/m <sup>3</sup>

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

Components	Type	Value
Tungsten (CAS 7440-33-7)	TWA	5 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.
Tungsten (CAS 7440-33-7)	TWA	5 mg/m <sup>3</sup>	Inhalable fraction.

**Spain. Occupational Exposure Limits**

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	1 mg/m <sup>3</sup>
Tungsten (CAS 7440-33-7)	STEL	10 mg/m <sup>3</sup>
	TWA	5 mg/m <sup>3</sup>

**Sweden. Occupational Exposure Limit Values**

Components	Type	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>	Total dust.
Tungsten (CAS 7440-33-7)	TWA	5 mg/m <sup>3</sup>	Total dust.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

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

**UK. EH40 Workplace Exposure Limits (WELs)**

Components	Type	Value
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m <sup>3</sup>
Tungsten (CAS 7440-33-7)	STEL	10 mg/m <sup>3</sup>
	TWA	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	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** 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**

**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** 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.

<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Solubility (other)</b>	Not available.
<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>Explosive properties</b>	Not available.
<b>Oxidizing properties</b>	Not available.
<b>9.2. Other information</b>	
<b>Density</b>	9,35 g/cm <sup>3</sup> estimated
<b>Specific gravity</b>	9,35 estimated

## SECTION 10: Stability and reactivity

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

## SECTION 11: Toxicological information

<b>General information</b>	Not available.
<b>Information on likely routes of exposure</b>	
<b>Inhalation</b>	Not available.
<b>Skin contact</b>	Not available.
<b>Eye contact</b>	Not available.
<b>Ingestion</b>	Not available.
<b>Symptoms</b>	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.

### Carcinogenicity

#### 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

### 12.1. Toxicity

Components	Species	Test results
Nickel (CAS 7440-02-0)		
<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
<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.	
<b>SECTION 13: Disposal considerations</b>		
<b>13.1. Waste treatment methods</b>		
<b>Residual waste</b>	Not available.	
<b>Contaminated packaging</b>	Not available.	
<b>EU waste code</b>	Not available.	
<b>SECTION 14: Transport information</b>		
<b>ADR</b>		
<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>	Not available.	
<b>RID</b>		
<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>	Not available.	
<b>ADN</b>		
<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	



**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

R50/53 Very toxic 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.