# MATERION

# PRODUCT INFORMATION SHEET

# SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or **Chromium Nickel Product** 

designation of the mixture

**Registration number Document number** 030 **Synonyms** None.

**Issue date** 13-November-2017

**Version number** 02

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** 

1+845.279.0900 **Telephone** e-mail Not available. Not available. **Contact person** 

1.4. Emergency telephone

Chemtrec

number

**Revision date** 15-February-2019 Supersedes date 13-November-2017

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 safety data sheet

**Supplier** 

**Company name** Materion Advanced Materials Group

**Address** 42 Mt. Ebo Road South

Brewster, NY 10509

United States

**Division** 

**Telephone** 1+845.279.0900 e-mail Not available. Contact person Not available.

1.4. Emergency telephone

Chemtrec 1+703.527.3887

number

#### **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.

1+703.527.3887

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

This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

**Hazard summary** Not classified for health hazards. However, occupational exposure to the mixture or substance(s)

may cause adverse health effects.

2.2. Label elements

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

**Contains:** Chromium, Nickel

**Hazard pictograms** None. Signal word None.

Material name: Chromium Nickel Product

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PIS EU

2349 Version #: 02 Revision date: 15-February-2019 Print date: 15-February-2019 **Hazard statements** 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.

**Precautionary statements** 

**Prevention** Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Supplemental label

99,9 % of the mixture consists of component(s) of unknown acute oral toxicity. 99,9 % of the information mixture consists of component(s) of unknown acute dermal toxicity. 99,9 % of the mixture

consists of component(s) of unknown acute hazards to the aquatic environment. 99,9 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

EUH208 - Contains Nickel. May produce an allergic reaction.

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
Chromium	50 - 99,9	7440-47-3 231-157-5	-	-	#
Classification:	Aquatic Chronic 3;H412				
Nickel	0,1 - 49,9	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	

#### List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance. vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

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

#### **SECTION 4: First aid measures**

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to

protect themselves.

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 Exposure may cause temporary irritation, redness, or discomfort.

symptoms and effects, both

acute and delayed

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

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing** 

media

mixture

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or

During fire, gases hazardous to health may be formed.

Material name: Chromium Nickel Product

2349 Version #: 02 Revision date: 15-February-2019 Print date: 15-February-2019 5.3. Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special firefighting** 

procedures

Use water spray to cool unopened containers.

**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.

**For emergency** Keep unnecessary personnel away.

responders

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

precautions

6.3. Methods and material for containment and cleaning up

Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

Value

Value

6.4. Reference to other

sections

Not available.

## **SECTION 7: Handling and storage**

7.1. Precautions for safe

handling

Avoid prolonged exposure. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store in original tightly closed container.

**7.3. Specific end use(s)** Not available.

## **SECTION 8: Exposure controls/personal protection**

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

#### 8.1. Control parameters

## **Occupational exposure limits**

Components	туре	value		
Chromium (CAS 7440-47-3)	MAK	2 mg/m3		
Austria. TRK List, OEL Ordinance Components	e (GwV), BGBl. II, no. 184/2001 Type	Value	Form	
Nickel (CAS 7440-02-0)	STEL	2 mg/m3	Inhalable dust.	
	TWA	0,5 mg/m3	Inhalable dust.	
Belgium. Exposure Limit Values.				

Beigium.	Exposure	Limit	values.
Compone	nts		

	· ype	value
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3
Nickel (CAS 7440-02-0)	TWA	1 mg/m3

Tyna

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

Chromium (CAS 7440-47-3)	TWA	2 mg/m3
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m3

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

Components	Туре	Value
Chromium (CAS 7440-47-3)	MAC	2 mg/m3
Nickel (CAS 7440-02-0)	MAC	0,5 mg/m3

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

Components	Туре	Value
Nickel (CAS 7440-02-0)	TWA	1 mg/m3

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Components	ch Republic. OELs. Government Decree 361 nponents Type		Form
Chromium (CAS 7440-47-3)	Ceiling	1,5 mg/m3	
	TWA	0,5 mg/m3	Dust.
		0,5 mg/m3	
Nickel (CAS 7440-02-0)	Ceiling	1 mg/m3	
	TWA	0,5 mg/m3	
Denmark. Exposure Limit Values Components	Туре	Value	Form
Chromium (CAS 7440-47-3)	TLV	0,5 mg/m3	Dust.
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m3 Dust.	
Estonia. OELs. Occupational Exposu September 2001)	ıre Limits of Hazardous Substa	nces. (Annex of Regula	tion No. 293 of 18
Components	Туре	Value	
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	
Finland. Workplace Exposure Limits	s		
Components	Туре	Value	Form
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3	
Nickel (CAS 7440-02-0)	TWA	0,01 mg/m3	Respirable.
France. Threshold Limit Values (VLI Components	EP) for Occupational Exposure Type	to Chemicals in France, Value	, INRS ED 984
Chromium (CAS 7440-47-3)	VME	2 mg/m3	
Regulatory status: Regulatory in	ndicative (VRI)	5,	
Nickel (CAS 7440-02-0)	VME	1 mg/m3	
Regulatory status: Indicative lin	nit (VL)		
Cormany TDCC 000 Limit Value - 1			
	n the Ambient Air at the Workp Type	place Value	Form
Components			Form Inhalable fraction.
Chromium (CAS 7440-47-3)	Туре	Value	
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0)	AGW AGW	Value 2 mg/m3	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999,	AGW AGW	Value 2 mg/m3	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components	AGW AGW , as amended)	<b>Value</b> 2 mg/m3 0,006 mg/m3	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3)	AGW AGW , as amended) Type	Value 2 mg/m3 0,006 mg/m3 Value	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0)	Type  AGW AGW , as amended) Type  TWA TWA	Value 2 mg/m3 0,006 mg/m3  Value 1 mg/m3	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che	Type  AGW AGW , as amended) Type  TWA TWA	Value 2 mg/m3 0,006 mg/m3  Value 1 mg/m3	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che	Type  AGW AGW , as amended) Type  TWA TWA  TWA emical Safety of Workplaces	Value 2 mg/m3 0,006 mg/m3  Value 1 mg/m3 1 mg/m3	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3)	Type  AGW AGW , as amended) Type  TWA TWA TWA  emical Safety of Workplaces Type	Value 2 mg/m3 0,006 mg/m3  Value 1 mg/m3 1 mg/m3  Value	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Nickel (CAS 7440-02-0)	AGW AGW , as amended) Type  TWA TWA emical Safety of Workplaces Type  TWA Ceiling	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3	Inhalable fraction.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components	AGW AGW , as amended) Type  TWA TWA emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3  mits  Value	Inhalable fraction. Respirable fraction.  Form
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3)	AGW AGW , as amended) Type  TWA TWA emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3 Value  2 mg/m3 0,1 mg/m3  wits  Value  0,5 mg/m3	Inhalable fraction. Respirable fraction.  Form  Dust.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Nickel (CAS 7440-02-0)	AGW AGW , as amended) Type  TWA TWA emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA TWA TWA	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3  mits  Value	Inhalable fraction. Respirable fraction.  Form
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Ireland. Occupational Exposure Lim	AGW AGW , as amended) Type  TWA TWA emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA TWA TWA	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3 Value  2 mg/m3 0,1 mg/m3  wits  Value  0,5 mg/m3	Inhalable fraction. Respirable fraction.  Form  Dust.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. Occupational Exposure Lim Components	AGW AGW , as amended) Type  TWA TWA emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA TWA TWA	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3  wits  Value  0,5 mg/m3 0,05 mg/m3	Inhalable fraction. Respirable fraction.  Form  Dust.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Ireland. Occupational Exposure Lim Components Chromium (CAS 7440-47-3)	AGW AGW , as amended) Type  TWA TWA  emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA TWA TWA TWA TWA TWA	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3  walue  0,5 mg/m3 0,05 mg/m3  Value	Inhalable fraction. Respirable fraction.  Form  Dust.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Che Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components	AGW AGW , as amended) Type  TWA TWA  Pemical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA TWA  TWA  TWA  TWA  TWA  TWA  TWA	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3  walue  0,5 mg/m3 0,05 mg/m3  Value  2 mg/m3	Inhalable fraction. Respirable fraction.  Form  Dust.
Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999, Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Checomponents Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iceland. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Ireland. Occupational Exposure Lim Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Iteland. Occupational Exposure Lim Components Chromium (CAS 7440-02-0) Italy. Occupational Exposure Limits Components	AGW AGW AS amended) Type  TWA TWA  emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA TWA TWA TWA TWA TWA TWA TWA TWA TW	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3  walue  0,5 mg/m3 0,05 mg/m3  Value  2 mg/m3 0,05 mg/m3  Value  2 mg/m3 0,5 mg/m3  Value	Inhalable fraction. Respirable fraction.  Form  Dust. Dust.
Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Greece. OELs (Decree No. 90/1999) Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Hungary. OELs. Joint Decree on Checomponents Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Celand. OELs. Regulation 154/199 Components Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Creland. Occupational Exposure Limits Chromium (CAS 7440-47-3) Nickel (CAS 7440-02-0) Creland. Occupational Exposure Limits Chromium (CAS 7440-02-0) Creland. Occupational Exposure Limits Chromium (CAS 7440-02-0) Creland. Occupational Exposure Limits Chromium (CAS 7440-02-0)	AGW AGW , as amended) Type  TWA TWA  emical Safety of Workplaces Type  TWA Ceiling  9 on occupational exposure lin Type  TWA TWA TWA TWA TWA TWA TWA TWA TWA TW	Value  2 mg/m3 0,006 mg/m3  Value  1 mg/m3 1 mg/m3  Value  2 mg/m3 0,1 mg/m3  value  0,5 mg/m3 0,05 mg/m3  Value  2 mg/m3 0,05 mg/m3  0,5 mg/m3 0,5 mg/m3	Inhalable fraction. Respirable fraction.  Form  Dust. Dust.

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Components	mit values of chemical substance Type	Value	lent
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m3	
Lithuania. OELs. Limit Values for Chen	nical Substances, General Require	ements	
Components	Туре	Value	
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	
Luxembourg. Binding Occupational ex Components	posure limit values (Annex I), Me Type	morial A Value	
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Netherlands. OELs (binding)		2.	
Components	Туре	Value	
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3	
Norway. Administrative Norms for Con	staminants in the Workplace	, -	
Components	Туре	Value	
Chromium (CAS 7440-47-3)	TLV	0,5 mg/m3	
Nickel (CAS 7440-02-0)	TLV	0,05 mg/m3	
Ordinance of the Minister of Labour an and intensities of harmful health facto			
Components	Туре	Value	
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3	
Nickel (CAS 7440-02-0)	TWA	0,25 mg/m3	
Portugal. OELs. Decree-Law n. 290/20 Components	01 (Journal of the Republic - 1 Se Type	eries A, n.266) Value	
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Portugal. VLEs. Norm on occupational Components	exposure to chemical agents (NP Type	5,	Form
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3	
Nickel (CAS 7440-02-0)	TWA	1,5 mg/m3	Inhalable fraction.
Romania. OELs. Protection of workers Components	from exposure to chemical agent Type		
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Nickel (CAS 7440-02-0)	STEL	0,5 mg/m3	
Menter (2,12,7,110,02,0)	TWA	0,1 mg/m3	
Slovakia. OELs for carcinogens and mu Components		. •	nd mutagenic substar Form
Nickel (CAS 7440-02-0)	TWA	0,05 mg/m3	Inhalable fraction.
,			
Slovenia. OELs. Regulations concerning working (Official Gazette of the Repub		isks due to exposul	re to cnemicals while
Components	Туре	Value	Form
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	Inhalable fraction.
Spain. Occupational Exposure Limits Components	Туре	Value	
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	
Nickel (CAS 7440-02-0)	TWA	1 mg/m3	
Sweden. OELs. Work Environment Aut Components			S 2015:7) Form
<del>-</del>			
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3	Total dust.

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Sweden. OELs. Work Environments	Туре	Value	Form
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	Total dust.
Switzerland. SUVA Grenzwerte a Components	nm Arbeitsplatz Type	Value	Form
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3	Inhalable fraction.
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	Inhalable fraction.
UK. EH40 Workplace Exposure L Components	imits (WELs) Type	Value	
Chromium (CAS 7440-47-3)	TWA	0,5 mg/m3	
Nickel (CAS 7440-02-0)	TWA	0,5 mg/m3	
EU. Indicative Exposure Limit Va Components	llues in Directives 91/322/E Type	EC, 2000/39/EC, 2006/15/ Value	EC, 2009/161/EU
Chromium (CAS 7440-47-3)	TWA	2 mg/m3	

#### **Biological limit values**

Czech Republic. Limit Values for Indictators 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
Chromium (CAS 7440-47-3) 0,065 μmol/mmol		Total chromium	Creatinine in urine	*
	0,03 mg/g	Total chromium	Creatinine in urine	*
Nickel (CAS 7440-02-0)	0,077 µmol/mmol	Nickel	Creatinine in urine	*
	0,04 mg/g	Nickel	Creatinine in urine	*

<sup>\* -</sup> 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 umol/l	Nickel	Urine	*	

 $<sup>\</sup>ensuremath{^*}$  - 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
Chromium (CAS 7440-47-3)	) 0,02 mg/g	chromium	Creatinine in urine	*
	0,043 µmol/mmol	chromium	Creatinine in urine	*
Nickel (CAS 7440-02-0)	0,02 mg/g	Nickel	Creatinine in urine	*
	0,038 µmol/mmol	Nickel	Creatinine in urine	*

<sup>\* -</sup> For sampling details, please see the source document.

Spain. Biological Limi	it Values (VLBs), C	Occupational Exposure	Limits for Che	mical Agents, Table 4	
Components	Value	Determinant	Specimen	Sampling Time	
Chromium (CAS 7440-4	7-3) 25 µg/l	Cromo total	Urine	*	
	10 μg/l	Cromo total	Urine	*	
* F !: 1 ! !!					

<sup>\* -</sup> 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	*			

<sup>\* -</sup> For sampling details, please see the source document.

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# **UK. EH40 Biological Monitoring Guidance Values (BMGVs)**

 Components
 Value
 Determinant
 Specimen
 Sampling Time

 Chromium (CAS 7440-47-3) 10 umol/mol
 Chromium
 Creatinine in
 \*

urine

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

**Recommended monitoring** 

procedures

Follow standard monitoring procedures.

**Derived no effect levels** 

(DNELs)

Predicted no effect concentrations (PNECs)

Not available.

Not available.

8.2. Exposure controls

**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.

Individual protection measures, such as personal protective equipment

**General information** 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** Wear safety glasses with side shields (or goggles).

**Skin protection** 

- **Hand protection** Wear appropriate chemical resistant gloves.

**- Other** Wear suitable protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures** 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.

**Environmental exposure** 

controls

Environmental manager must be informed of all major releases.

#### **SECTION 9: Physical and chemical properties**

#### 9.1. Information on basic physical and chemical properties

**Appearance** 

Physical stateSolid.FormSolid.

Colour Not available.
Odour Not available.
Odour threshold Not available.
pH Not available.

Melting point/freezing point

Initial boiling point and boiling range

1900 °C (3452 °F) estimated

2642 °C (4787,6 °F) estimated

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

(%)

Flammability limit -

Not available.

upper (%)

**Vapour pressure** 0,00001 hPa estimated

Vapour densityNot available.Relative densityNot available.

Solubility(ies)

**Solubility (water)** Not available.

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Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperatureNot available.Decomposition temperatureNot available.ViscosityNot available.Explosive propertiesNot explosive.Oxidising propertiesNot oxidising.

9.2. Other information

**Density** 7,14 g/cm3 estimated **Specific gravity** 7,14 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** No dangerous reaction known under conditions of normal use.

reactions

**10.4. Conditions to avoid** Contact with incompatible materials.

**10.5. Incompatible materials** Strong oxidising agents.

**10.6. Hazardous** No hazardous decomposition products are known.

decomposition products

## **SECTION 11: Toxicological information**

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

# Information on likely routes of exposure

**Inhalation** May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation

may be harmful.

**Skin contact** May cause an allergic skin reaction.

**Eye contact** Direct contact with eyes may cause temporary irritation.

**Ingestion** May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of

occupational exposure.

**Symptoms** Exposure may cause temporary irritation, redness, or discomfort.

#### 11.1. Information on toxicological effects

**Acute toxicity** Not known.

**Skin corrosion/irritation**Due to partial or complete lack of data the classification is not possible. **Serious eye damage/eye**Due to partial or complete lack of data the classification is not possible.

irritation

Respiratory sensitisationDue to partial or complete lack of data the classification is not possible.Skin sensitisationDue to partial or complete lack of data the classification is not possible.Germ cell mutagenicityDue to partial or complete lack of data the classification is not possible.CarcinogenicityDue to partial or complete lack of data the classification is not possible.

# Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

# IARC Monographs. Overall Evaluation of Carcinogenicity

Chromium (CAS 7440-47-3) 3 Not classifiable as to carcinogenicity to humans.

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

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

Nickel (CAS 7440-02-0) Carcinogenic, Category 2.

**Reproductive toxicity**Due to partial or complete lack of data the classification is not possible. **Specific target organ toxicity**Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity

- repeated exposure

- single exposure

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

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

Mixture versus substance No information available.

information

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Other information May cause allergic respiratory and skin reactions.

## **SECTION 12: Ecological information**

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

environment.

**Product Species Test Results** 

Chromium Nickel Product

**Aquatic** 

Fish LC50 Fish 89791,9141 mg/l, 96 hours estimated

12.2. Persistence and

degradability

12.3. Bioaccumulative

potential

No data available.

**Partition coefficient** 

Not available.

n-octanol/water (log Kow)

**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.

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

#### 12.7. Additional information

12.6. Other adverse effects

#### **Estonia Dangerous substances in groundwater Data**

Chromium (CAS 7440-47-3) Chromium (Cr) 10 ug/l

Chromium (Cr) 200 ug/l Nickel (Ni) 10 ug/l

Nickel (CAS 7440-02-0)

Nickel (Ni) 200 ug/l

**Estonia Dangerous substances in soil Data** 

Chromium (CAS 7440-47-3) Chromium (Cr) 100 mg/kg

> Chromium (Cr) 300 mg/kg Chromium (Cr) 800 mg/kg Nickel (Ni) 150 mg/kg Nickel (Ni) 50 mg/kg

Nickel (CAS 7440-02-0)

Nickel (Ni) 500 mg/kg

#### **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 Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

methods/information

Special precautions Dispose in accordance with all applicable regulations.

#### **SECTION 14: Transport information**

**ADR** 

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

RTD

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.

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PIS EU

<sup>\*</sup> Estimates for product may be based on additional component data not shown.

#### **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

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

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

Chromium (CAS 7440-47-3) 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**

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

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.

## 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.

**National regulations** Follow national regulation for work with chemical agents.

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.

**Revision information** Product and Company Identification: Product Review

SECTION 2: Hazards identification: Hazard statements

**Training information** Follow training instructions when handling this material.

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#### Disclaimer

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. 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).

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