



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 Carbon Titanium Product
Synonyms None.
Document number 328
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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 F;R11, R53

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

Hazard summary

Physical hazards Highly flammable.
Health hazards Not classified for health hazards.
Environmental hazards 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: Carbon, Titanium
Hazard pictograms None.
Signal word None.
Hazard statements The mixture does not meet the criteria for classification.

Precautionary statements

Prevention Not available.
Response Not available.
Storage Not available.
Disposal Not available.

Supplemental label information None.

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
Carbon	50 - < 99	7440-44-0 231-153-3	-	-	
Classification:	DSD: -				
	CLP: Self-heat. 2;H252				
Titanium	1 - < 50	7440-32-6 231-142-3	-	-	
Classification:	DSD: R10				
	CLP: -				

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 Not available.

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
Carbon (CAS 7440-44-0)	MAK	5 mg/m ³	Respirable dust.
	STEL	10 mg/m ³	Respirable dust.

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	3,5 mg/m ³	Respirable fraction.
Titanium (CAS 7440-32-6)	TWA	1 mg/m ³	

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	MAC	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.

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

Components	Type	Value
Carbon (CAS 7440-44-0)	TWA	10 mg/m ³

Denmark. Exposure Limit Values

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TLV	2,5 mg/m ³	Respirable.

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	3 mg/m ³	Dust.

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	VME	5 mg/m ³	Respirable fraction.
		2 mg/m ³	Respirable fraction.
		10 mg/m ³	Inhalable fraction.

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	5 mg/m ³	Respirable.
		10 mg/m ³	Inhalable

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	6 mg/m ³	Respirable dust.
		10 mg/m ³	Total inhalable dust.

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total inhalable dust.

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

Components	Type	Value
Titanium (CAS 7440-32-6)	TWA	10 mg/m ³

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	4 mg/m ³	Inhalable fraction.
		1 mg/m ³	Respirable fraction.
Titanium (CAS 7440-32-6)	STEL	30 mg/m ³	
	TWA	10 mg/m ³	

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.
Titanium (CAS 7440-32-6)	STEL	15 mg/m ³	
	TWA	10 mg/m ³	

Sweden. Occupational Exposure Limit Values

Components	Type	Value
Carbon (CAS 7440-44-0)	TWA	0,2 fibers/mL

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Inhalable dust.

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

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

General information Not available.

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 1668 °C (3034,4 °F) estimated

Initial boiling point and boiling range 3287 °C (5948,6 °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** 462853,97 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.**Oxidizing properties** Not available.**9.2. Other information****Density** 4,51 g/cm3 estimated**Specific gravity** 4,51 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** Not available.**10.5. Incompatible materials** Not available.**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**

Components	Species	Test results
Carbon (CAS 7440-44-0)		
<u>Acute</u>		
Oral		
LD50	Rat	> 10000 mg/kg
Skin corrosion/irritation	Not available.	
Serious eye damage/eye irritation	Not available.	
Respiratory sensitisation	Not available.	
Skin sensitisation	Not available.	
Germ cell mutagenicity	Not available.	
Carcinogenicity	Not available.	
Reproductive toxicity	Not available.	

Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Not available.
Contaminated packaging	Not available.
EU waste code	Not available.

SECTION 14: Transport information

ADR

14.1. UN number	UN3178
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
Hazard No. (ADR)	40
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

RID

14.1. UN number	UN3178
14.2. UN proper shipping name	Flammable solid, inorganic, n.o.s.
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
Label(s)	4.1
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

ADN

14.1. UN number	UN3178
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14.2. UN proper shipping name Flammable Solid, N.o.s.

14.3. Transport hazard class(es)

Class 4.1

Subsidiary risk -

Label(s) 4.1

14.4. Packing group III

14.5. Environmental hazards No.

14.6. Special precautions for user Not available.

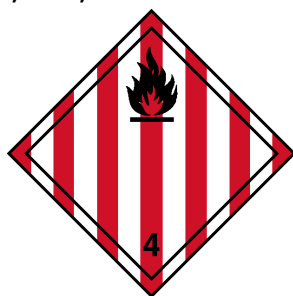
IATA

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

Not listed.

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

Not regulated.

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

R10 Flammable.

R11 Highly flammable.

R53 May cause long-term adverse effects in the aquatic environment.

H252 Self-heating in large quantities; may catch fire.

Revision information None.

Training information Not available.