# MATERION

### SAFETY DATA SHEET

Version #: 07

Issue date: 15-May-2015 Revision date: 18-July-2024 Supersedes date: 17-April-2024

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

**Registration number** 

**Synonyms** Carbon dust - natural and artificial diamonds, graphite

**Materion Code** 

1.1. Product identifier

Name of the substance Graphite

**Identification number** 231-955-3 (EC number)

1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Manufacture of computer, electronic and optical products, electrical equipment

Scientific research and development

Other: Manufacture of medical and defense equipment

Uses advised against Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Consumer uses: Private households (= general public = consumers)

### 1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Electronic Materials

**Address** 6070 Parkland Blvd

Mayfield Heights, OH 44124

**United States** 

**Division** 

Telephone 1.216.383.4019

e-mail Materion-PS@materion.com Contact person **Product Stewardship Director** 

1.4. Emergency telephone

number

**Document number** 1JR

### **SECTION 2: Hazards identification**

### 2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

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

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

### 2.2. Label elements

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

**Contains:** Graphite **Hazard pictograms** None. Signal word None.

**Hazard statements** The substance does not meet the criteria for classification.

**Precautionary statements** 

**Prevention** Observe good industrial hygiene practices.

Wash hands after handling. Response

Storage Store away from incompatible materials.

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

Supplemental label

information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

Material name: Graphite SDS FU 1 / 10

This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII. The substance is not included in the list established in accordance with REACH Article 59(1) for

having endocrine disrupting properties.

### **SECTION 3: Composition/information on ingredients**

#### 3.1. Substances

### **General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Graphite	100	7782-42-5 231-955-3	-	-	
Class	sification: -				

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

ATE: Acute toxicity estimate.

M: M-factor

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

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

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

### **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

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.

Coughing.

5.1. Extinguishing media

Suitable extinguishing

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

Unsuitable extinguishing

media

media

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

5.2. Special hazards arising from the substance or

mixture

During fire, gases hazardous to health may be formed.

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.

Use standard firefighting procedures and consider the hazards of other involved materials. Specific methods

### **SECTION 6: Accidental release measures**

### 6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency

personnel

Wear appropriate personal protective equipment.

For emergency responders

Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

6.2. Environmental

precautions

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

Material name: Graphite SDS FU

6.3. Methods and material for containment and cleaning up

The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. The product is

insoluble in water.

6.4. Reference to other sections

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

### **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 tightly closed container. Store away from incompatible materials (see Section 10 of the

SDS).

7.3. Specific end use(s)

Observe industrial sector guidance on best practices.

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

#### 8.1. Control parameters

### **Occupational exposure limits**

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001, as amended			
Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	MAK	5 mg/m3	Respirable dust.
	STEL	10 mg/m3	Respirable dust.

### Belgium. OEL. Exposure Limit Values to Chemical Substances at Work, Code of Well-being at work, Book VI, Title 1

- Chemical agents, as amended

Material	Туре	Value	Form	
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.	

### Bulgaria. OELs. Ordinance No 13 on protection of workers against risks of exposure to chemical agents at work, as amended

Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	5 mg/m3	Inhalable fraction.

### Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended

Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	MAC	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

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

Material	Туре	Value	
Graphite (CAS 7782-42-5)	TWA	10 mg/m3	

### Czech Republic. Occupational exposure limit values of chemicals at work (Decree on protection of health at work, 361/2007, Annex 2, Part A & Annex 3, Part A, as amended)

Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable dust.
		10 mg/m3	Total dust.

## Denmark. Work Environment Authority. Exposure Limits for Substances & Materials, Annex 2 Material Type Value Form Graphite (CAS 7782-42-5) TLV 2,5 mg/m3 Respirable.

### Estonia. OELs. Occupational Exposure Limits of Hazardous Substances (Regulation No. 105/2001, Annex), as amended

Material	Туре	Value	Form	
Graphite (CAS 7782-42-5)	TWA	5 mg/m3	Total dust.	
Finland. HTP-arvot, App 3., Bind	ing Limit Values, Social Aff	fairs and Ministry of Health		

### Finland. HTP-arvot, App 3., Binding Limit Values, Social Affairs and Ministry of Health Material Type Value

Graphite (CAS 7782-42-5) TWA 2 mg/m3

Material name: Graphite SDS EU

France. Threshold Limit Values (V Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	VME	2 mg/m3	Respirable fraction.
Regulatory status: Indicative	limit (VL)		
Germany. DFG MAK List (advisory		e Investigation of Health Ha	zards of Chemical
Compounds in the Work Area (DF Material	G), as updated Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	4 mg/m3	Inhalable fraction.
		0,3 mg/m3	Respirable fraction.
Germany. TRGS 900, Limit Values	in the Ambient Air at the V	, -	·
Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.
Greece. OELs, Presidential Decree	e No. 307/1986, as amende		
Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Inhalable
Hungary. OELs. Decree on protect	tion of workers exposed to	chemical agents (5/2020. (	II.6)), Annex 1&2, as
amended Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	5 mg/m3	Inhalable dust.
Jiapilia (000 //02 12 J)	1 ***	2 mg/m3	Respirable dust.
		-	•
Iceland. OELs. Regulation 390/20 amended	109 on Pollution Limits and	Measures to Reduce Polluti	on at the Workplace, a
	_		Form
Material	Туре	Value	101111
	<b>Type</b> TWA	5 mg/m3	Total dust.
Graphite (CAS 7782-42-5)	TWA	5 mg/m3 2,5 mg/m3	Total dust. Respirable dust.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2,	TWA	5 mg/m3 2,5 mg/m3	Total dust. Respirable dust.
Material Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6 Material Graphite (CAS 7782-42-5)	TWA  Code of Practice for Chemic	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens	Total dust. Respirable dust. Regulations
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6  Material  Graphite (CAS 7782-42-5)	TWA  Code of Practice for Chemic Type  TWA	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3	Total dust. Respirable dust. Regulations Form
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 9  Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n.8)	TWA  Code of Practice for Chemic Type  TWA	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3	Total dust. Respirable dust. Regulations Form
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6  Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. 6  Material	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amence	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3	Total dust. Respirable dust.  Regulations Form  Respirable fraction.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 9  Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. 8  Material  Graphite (CAS 7782-42-5)	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amenc Type  TWA	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6  Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. 6  Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amenc Type  TWA  TWA  ure Limits of Chemical Subs	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3 stances at Workplace (Reg.	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6 Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. 6 Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amenc Type  TWA  ure Limits of Chemical Subs	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3 stances at Workplace (Reg. Value	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6 Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. 6 Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amenc Type  TWA  TWA  ure Limits of Chemical Subs	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3 stances at Workplace (Reg.	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6 Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n.: Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Exp	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitute  Type  TWA	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 6 Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n.: Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amenc Type  TWA  ure Limits of Chemical Substitute  Type  TWA  cosure Limit Values for Chemical Substitute  TWA	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, 9 Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n.: Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitute  Type  TWA	5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 mical Substances (Hygiene Value	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Or
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended  Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended  Material  Graphite (CAS 7782-42-5)	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitute  Type  TWA  cosure Limit Values for Chemical Type  Type  TWA	5 mg/m3 2,5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 stances (Reg. Value 2 mg/m3 smical Substances (Hygiene Value 3 mg/m3	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Norway. Regulation No. 1358 on Norway.	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amenc Type  TWA  ure Limits of Chemical Subst  Type  TWA  cosure Limit Values for Che  Type  TWA  Measures and Limit Values	5 mg/m3 2,5 mg/m3 2,5 mg/m3 2al Agents and Carcinogens Value 2 mg/m3 3 mg/m3 4 mical Substances (Hygiene Value 3 mg/m3 for Physical and Chemical F	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.
Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Environment and Infection Group	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amenc Type  TWA  ure Limits of Chemical Subst  Type  TWA  cosure Limit Values for Che  Type  TWA  Measures and Limit Values	5 mg/m3 2,5 mg/m3 2,5 mg/m3 2al Agents and Carcinogens Value 2 mg/m3 3 mg/m3 4 mical Substances (Hygiene Value 3 mg/m3 for Physical and Chemical F	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Environment and Infection Group Material	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitute  Type  TWA  cosure Limit Values for Chemical Type  TWA  Measures and Limit Values for Biological Factors, as	5 mg/m3 2,5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 stances (Hygiene Value 3 mg/m3 for Physical and Chemical Famended	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.  actors in Work
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Environment and Infection Group Material	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitution  Type  TWA  cosure Limit Values for Chemical Type  TWA  Measures and Limit Values for Biological Factors, as Type	5 mg/m3 2,5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 ded Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 smical Substances (Hygiene Value 3 mg/m3 for Physical and Chemical Famended Value	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.  actors in Work  Form
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n.: Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Environment and Infection Group Material  Graphite (CAS 7782-42-5)	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitution  Type  TWA  cosure Limit Values for Che  Type  TWA  Measures and Limit Values for Biological Factors, as Type  TLV	5 mg/m3 2,5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 smical Substances (Hygiene Value 3 mg/m3 for Physical and Chemical Famended Value 5 mg/m3 2 mg/m3	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.  actors in Work  Form  Total dust.  Respirable dust.
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n.: Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Environment and Infection Group Material  Graphite (CAS 7782-42-5)  Poland. Maximum permissible cor (Dz.U.Poz. 1286/2018, Annex 1)	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitute  Type  TWA  cosure Limit Values for Chemical Type  TWA  Measures and Limit Values for Biological Factors, as Type  TLV  ncentrations and intensities	5 mg/m3 2,5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 smical Substances (Hygiene Value 3 mg/m3 for Physical and Chemical Famended Value 5 mg/m3 2 mg/m3 5 of harmful factors in the ways and the second secon	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.  actors in Work  Form  Total dust. Respirable dust.  York environment
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n. Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Environment and Infection Group Material  Graphite (CAS 7782-42-5)  Poland. Maximum permissible con (Dz.U.Poz. 1286/2018, Annex 1)  Material	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitution  Type  TWA  cosure Limit Values for Chemical Type  TWA  Measures and Limit Values for Biological Factors, as Type  TLV  ncentrations and intensities  Type	5 mg/m3 2,5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 mical Substances (Hygiene Value 3 mg/m3 for Physical and Chemical Famended Value 5 mg/m3 2 mg/m3 5 of harmful factors in the workplace	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.  actors in Work  Form  Total dust. Respirable dust.  Fork environment  Form
Graphite (CAS 7782-42-5)  Ireland. OELVs, Schedules 1 & 2, Material  Graphite (CAS 7782-42-5)  Italy. OELs (Legislative Decree n.: Material  Graphite (CAS 7782-42-5)  Latvia. OELs. Occupational Expose Annex 1), as amended Material  Graphite (CAS 7782-42-5)  Lithuania. OELs. Occupational Expose No. V-824/A1-389), as amended Material  Graphite (CAS 7782-42-5)  Norway. Regulation No. 1358 on Environment and Infection Group Material  Graphite (CAS 7782-42-5)  Poland. Maximum permissible cor (Dz.U.Poz. 1286/2018, Annex 1)	TWA  Code of Practice for Chemic Type  TWA  81, 9 April 2008), as amend Type  TWA  ure Limits of Chemical Substitute  Type  TWA  cosure Limit Values for Chemical Type  TWA  Measures and Limit Values for Biological Factors, as Type  TLV  ncentrations and intensities	5 mg/m3 2,5 mg/m3 2,5 mg/m3 cal Agents and Carcinogens Value 2 mg/m3 stances at Workplace (Reg. Value 2 mg/m3 smical Substances (Hygiene Value 3 mg/m3 for Physical and Chemical Famended Value 5 mg/m3 2 mg/m3 5 of harmful factors in the ways and the second secon	Total dust. Respirable dust.  Regulations Form  Respirable fraction.  Form  Respirable fraction.  No. 325/ 2007, L.V. 80  Form  Dust.  Norm HN 23:2011; Ord  Form  Dust.  actors in Work  Form  Total dust. Respirable dust.  York environment

Material name: Graphite SDS EU

	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
amended)	ues of Chemical Agents at Workplace (Regul		
Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
355/2006, Annex 1, Table	· · ·		
Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
		2 mg/m3	Respirable fraction.
		10 mg/m3	Total
Risks due to Exp. to Chen	onal Exposure Limits of Chemicals at Workpl nicals at Work, Ann. I 100/2001), as amende	ed	
Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	KTV	20 mg/m3	Inhalable fraction.
		2,5 mg/m3	Respirable fraction.
	onal Exposure Limits of Chemicals at Workpl	ace (Reg. on Prote	ection of Workers from
Material	nicals at Work, Annex I), as amended Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	10 mg/m3	Inhalable fraction.
Grapinia (Gris 7702 123)		1,25 mg/m3	Respirable fraction.
Ambientales (VLAs)	tes de Exposición Profesional Para Agentes Q	-	/alores Límites
Material	Туре	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable dust.
Sweden. OELs (Annex 1). amended	Work Environment Authority (AV), Occupati	ional Exposure Lim	nit Values (AFS 2018:1),
Material	Туре	Value	
Graphite (CAS 7782-42-5)	TWA	0,2 fibers/ml	
Switzerland. SUVA Grenz Material	werte am Arbeitsplatz: Aktuelle MAK-Werte Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	3 mg/m3	Respirable fraction.
	1 4474	<i>J</i> ,	
		٥.	
logical limit values commended monitoring cedures	No biological exposure limits noted for the ingre- Follow standard monitoring procedures.	٥.	
logical limit values	No biological exposure limits noted for the ingre	٥.	
logical limit values commended monitoring cedures ived no effect levels IELs) dicted no effect	No biological exposure limits noted for the ingre- Follow standard monitoring procedures.	٥.	
logical limit values commended monitoring cedures ived no effect levels	No biological exposure limits noted for the ingre- Follow standard monitoring procedures.  Not available.  Not available.	edient(s).	
logical limit values commended monitoring cedures ived no effect levels IELs) dicted no effect centrations (PNECs) Exposure controls propriate engineering	No biological exposure limits noted for the ingre- Follow standard monitoring procedures.  Not available.	edient(s).  lation rates should be st ventilation, or othe exposure limits. If exp	er engineering controls to
logical limit values commended monitoring cedures ived no effect levels IELs) dicted no effect centrations (PNECs) Exposure controls propriate engineering trols	No biological exposure limits noted for the ingress Follow standard monitoring procedures.  Not available.  Not available.  Good general ventilation should be used. Ventil applicable, use process enclosures, local exhaus maintain airborne levels below recommended e established, maintain airborne levels to an access, such as personal protective equipment Personal protection equipment should be chose	lation rates should be st ventilation, or othe exposure limits. If expeptable level.	er engineering controls to posure limits have not beer
logical limit values commended monitoring cedures ived no effect levels IELs) dicted no effect centrations (PNECs) Exposure controls propriate engineering trols ividual protection measure General information	No biological exposure limits noted for the ingress Follow standard monitoring procedures.  Not available.  Not available.  Good general ventilation should be used. Ventil applicable, use process enclosures, local exhaus maintain airborne levels below recommended e established, maintain airborne levels to an accees, such as personal protective equipment Personal protection equipment should be chose with the supplier of the personal protective equipment	lation rates should be st ventilation, or othe exposure limits. If expeptable level.	er engineering controls to posure limits have not beer
logical limit values commended monitoring cedures ived no effect levels IELs) dicted no effect centrations (PNECs) Exposure controls propriate engineering trols ividual protection measure General information Eye/face protection	No biological exposure limits noted for the ingress Follow standard monitoring procedures.  Not available.  Not available.  Good general ventilation should be used. Ventil applicable, use process enclosures, local exhaus maintain airborne levels below recommended e established, maintain airborne levels to an access, such as personal protective equipment Personal protection equipment should be chose	lation rates should be st ventilation, or othe exposure limits. If expeptable level.	er engineering controls to posure limits have not beer
logical limit values commended monitoring cedures ived no effect levels IELs) dicted no effect centrations (PNECs) Exposure controls propriate engineering trols ividual protection measure General information	No biological exposure limits noted for the ingress Follow standard monitoring procedures.  Not available.  Not available.  Good general ventilation should be used. Ventil applicable, use process enclosures, local exhaus maintain airborne levels below recommended e established, maintain airborne levels to an accees, such as personal protective equipment Personal protection equipment should be chose with the supplier of the personal protective equipment	lation rates should be st ventilation, or othe exposure limits. If expeptable level.	er engineering controls to posure limits have not beer

Material name: Graphite SDS EU

**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

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

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

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

Physical state Solid. Solid. **Form** Black Colour Odour None

**Odour threshold** Not applicable. Melting point/freezing point Not available.

**Boiling point or initial boiling** 

4492 °C (8117,6 °F) 1013,25 hPa

point and boiling range

**Flammability** None known. Upper/lower flammability or explosive limits

**Explosive limit - lower (** 

Not applicable.

(%)

**Explosive limit - lower (** 

Not applicable.

%) temperature

Explosive limit – upper

Not applicable.

**Explosive limit - upper (** 

%) temperature

Not applicable.

Flash point Not applicable. **Auto-ignition temperature** 452 °C (845,6 °F) **Decomposition temperature** Not applicable. Not available. **Kinematic viscosity** Not applicable.

Solubility

Solubility (water) Insoluble **Partition coefficient** Not applicable.

(n-octanol/water) (log value)

62128,05 kPa (25 °C (77 °F)) Vapour pressure

Density and/or relative density

Not applicable. Relative density Vapour density Not applicable. **Particle characteristics** Not available.

9.2. Other information

9.2.1. Information with regard to physical hazard

No relevant additional information available.

classes

### 9.2.2. Other safety characteristics

Not applicable. **Evaporation rate** 

**Heat of combustion** 

(NFPA 30B)

0 kJ/g

C **Molecular formula** 

Molecular weight 12,01 g/mol

### **SECTION 10: Stability and reactivity**

10.1. Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Material name: Graphite SDS FU 1JR Version #: 07 Revision date: 18-July-2024 Issue date: 15-May-2015

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 Chlorine.

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** Not likely, due to the form of the product. Skin contact Not likely, due to the form of the product. Eye contact Not likely, due to the form of the product. Ingestion Not likely, due to the form of the product.

**Symptoms** None known.

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity** Not known.

**Product Species Test Results** 

Graphite (CAS 7782-42-5)

**Acute** Oral

> 10000 mg/kg LD50 Rat

Skin corrosion/irritation Not likely, due to the form of the product. Serious eve damage/eve Not likely, due to the form of the product.

irritation

Respiratory sensitisation Due to partial or complete lack of data the classification is not possible. Skin sensitisation Due to partial or complete lack of data the classification is not possible. Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible. Due to partial or complete lack of data the classification is not possible. Carcinogenicity Reproductive toxicity Due to partial or complete lack of data the classification is not possible. Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - single exposure

**Aspiration hazard** 

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

Specific target organ toxicity

- repeated exposure

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

Mixture versus substance

information

No information available.

### 11.2. Information on other hazards

**Endocrine disrupting** 

properties

This substance does not have endocrine disrupting properties with respect to human health, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No

2017/2100 and (EU) 2018/605.

Other information Not available.

### **SECTION 12: Ecological information**

12.1. Toxicity Due to partial or complete lack of data the classification for hazardous to the aquatic environment,

is not possible.

12.2. Persistence and

degradability

No data is available on the degradability of this substance.

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.

Material name: Graphite SDS FU 12.5. Results of PBT and vPvB assessment

This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex XIII.

12.6. Endocrine disrupting

properties

This substance does not have endocrine disrupting properties with respect to the environment, as it does not meet the assessment criteria laid out in Regulations (EC) No 1907/2006, (EU) No

2017/2100 and (EU) 2018/605.

12.7. Other adverse effects

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 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 methods/information

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

**Special precautions** Dispose in accordance with all applicable regulations.

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

#### **ADR**

**14.1. UN number**Not regulated as dangerous goods. **14.2. UN proper shipping**Not regulated as dangerous goods.

name

14.3. Transport hazard class(es)

**Class** Not assigned.

Subsidiary risk

Hazard No. (ADR) Not assigned.
Tunnel restriction Not assigned.

code

**14.4. Packing group** - **14.5. Environmental** No.

hazards

**14.6. Special precautions** Not assigned.

for user

**RID** 

**14.1. UN number**Not regulated as dangerous goods. **14.2. UN proper shipping**Not regulated as dangerous goods.

name

14.3. Transport hazard class(es)

**Class** Not assigned.

Subsidiary risk 14.4. Packing group 14.5. Environmental No.

hazards

**14.6. Special precautions** Not assigned.

for user

**ADN** 

**14.1. UN number**Not regulated as dangerous goods. **14.2. UN proper shipping**Not regulated as dangerous goods.

name

14.3. Transport hazard class(es)

Class Not assigned.

Subsidiary risk -14.4. Packing group -14.5. Environmental No.

hazards

**14.6. Special precautions** Not assigned.

for user

IATA

**14.1. UN number** Not regulated as dangerous goods.

Material name: Graphite SDS EU

14.2. UN proper shipping Not regulated as dangerous goods.

name

14.3. Transport hazard class(es)

Not assigned.

Subsidiary risk 14.4. Packing group 14.5. Environmental No.

hazards

14.6. Special precautions Not assigned.

for user

**IMDG** 

**14.1. UN number** Not regulated as dangerous goods. 14.2. UN proper shipping Not regulated as dangerous goods.

14.3. Transport hazard class(es)

Class Not assigned.

**Subsidiary risk** 14.4. Packing group 14.5. Environmental hazards Marine pollutant No.

**EmS** Not assigned. 14.6. Special precautions Not assigned.

for user

### **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 (EU) 2019/1021 On persistent organic pollutants (recast), 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 Graphite (CAS 7782-42-5)

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 - Conditions of restriction given for the associated entry number should be considered

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.

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex I, as amended

Regulation 2019/1148 on Marketing and Use of Explosive Precursors, Annex II, as amended

Material name: Graphite SDS FU 9 / 10

Not listed.

Other regulations The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP

Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC)

No 1907/2006, as amended.

**National regulations** 

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as

amended.

Contains a substance which is included on the TRGS 905 list of carcinogenic, germ cell mutagenic and reproductive toxic substances

Graphite (CAS 7782-42-5)

Anorganische Faserstäube, soweit nicht erwähnt (ausgenommen

Gipsfasernund Wollastonitfasern)

France regulations

**France INRS Table of Occupational Diseases** 

Graphite (CAS 7782-42-5)

Affections consécutives à l'inhalation de poussières minérales renfermant de la silicecristalline (quartz, cristobalite, tridymite), des silicates cristallins (kaolin, talc), du graphite ou de la houille 25

15.2. Chemical safety

No Chemical Safety Assessment has been carried out.

assessment

**SECTION 16: Other information** 

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland

Waterways.

ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.

AGW: Occupational threshold limit value (Arbeitsplatzgrenzwert - Germany).

CAS: Chemical Abstract Service.

CEN: European Committee for Standardization. IATA: International Air Transport Association.

IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous

Chemicals in Bulk.

IMDG: International Maritime Dangerous Goods.

MAC: Maximum Allowed Concentration.

MARPOL: International Convention for the Prevention of Pollution from Ships.

PBT: Persistent, bioaccumulative and toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short term exposure limit. TLV: Threshold Limit Value. TWA: Time Weighted Average. VLE: Exposure Limit Value. VME: Exposure Average Value.

vPvB: Very persistent and very bioaccumulative.

References

Information on evaluation method leading to the classification of mixture

Not available. Not applicable.

Full text of any statements, which are not written out in full under sections 2 to 15

None.

Revision information
Training information

This document has undergone significant changes and should be reviewed in its entirety.

**Further information** Transportation Emergency

Call Chemtrec at: US: 800.424.9300

International: 703.741.5970 Spain: 900.868.538 Switzerland: 0800.564.402

Chemtrec's toll free, mobile-enabled number in Germany - 0800 1817059

South Korea Toll-free Number – 080-880-0468

Follow training instructions when handling this material.

Disclaimer

This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any

particular use and to comply with all Federal, State, Provincial and Local laws, statutes and

regulations.

Material name: Graphite SDS EU