



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance Manganese Product
Identification number 7439-96-5 (CAS number)
Synonyms None.
Issue date 28-May-2015
Version number 01

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

Identified uses Not available.
Uses advised against None known.

1.3. Details of the supplier of the safety data 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 R52/53

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

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

Hazard summary

Physical hazards Not classified for physical hazards.
Health hazards Not classified for health hazards.
Environmental hazards Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards Not available.
Main symptoms Not available.

2.2. Label elements

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

Contains: Manganese
Hazard pictograms None.
Signal word None.
Hazard statements
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention
P273 Avoid release to the environment.
Response Not available.
Storage Not available.

Disposal

P501

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

Supplemental label information

100 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Manganese	100	7439-96-5 231-105-1	-	-	
Classification:					
DSD:	-				
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 DRY sand, sodium chloride powder, graphite powder or Met-L-X powder.

Unsuitable extinguishing media Not available.

5.2. Special hazards arising from the substance or mixture Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Not available.

For emergency responders Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Not available.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Not available.

7.2. Conditions for safe storage, including any incompatibilities Not available.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

Material	Type	Value	Form
Manganese Product	MAK	0,5 mg/m ³	Inhalable fraction.
	STEL	2 mg/m ³	Inhalable fraction.

Components	Type	Value	Form
Manganese (CAS 7439-96-5)	MAK	0,5 mg/m ³	Inhalable fraction.
	STEL	2 mg/m ³	Inhalable fraction.

Belgium. Exposure Limit Values.

Material	Type	Value
Manganese Product	TWA	0,2 mg/m ³

Components	Type	Value
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³

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

Material	Type	Value
Manganese Product	STEL	3 mg/m ³
	TWA	0,3 mg/m ³

Components	Type	Value
Manganese (CAS 7439-96-5)	STEL	3 mg/m ³
	TWA	0,3 mg/m ³

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

Material	Type	Value
Manganese Product	MAC	0,5 mg/m ³

Components	Type	Value
Manganese (CAS 7439-96-5)	MAC	0,5 mg/m ³

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

Material	Type	Value
Manganese Product	TWA	5 mg/m ³

Components	Type	Value
Manganese (CAS 7439-96-5)	TWA	5 mg/m ³

Czech Republic. OELs. Government Decree 361

Material	Type	Value
Manganese Product	Ceiling	2 mg/m ³
	TWA	1 mg/m ³

Components	Type	Value
Manganese (CAS 7439-96-5)	Ceiling	2 mg/m ³
	TWA	1 mg/m ³

**Denmark. Exposure Limit Values
Material**

Material	Type	Value	Form
Manganese Product	TLV	0,2 mg/m ³ 0,2 mg/m ³ 0,1 mg/m ³	Fume. Dust. Respirable.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TLV	0,2 mg/m ³ 0,2 mg/m ³ 0,1 mg/m ³	Fume. Dust. Respirable.

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

Material	Type	Value	Form
Manganese Product	TWA	0,2 mg/m ³ 0,1 mg/m ³	Total dust. Respirable dust.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³ 0,1 mg/m ³	Total dust. Respirable dust.

**Finland. Workplace Exposure Limits
Material**

Material	Type	Value	Form
Manganese Product	TWA	0,2 mg/m ³ 0,02 mg/m ³	Inhalable dust. Respirable.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³ 0,02 mg/m ³	Inhalable dust. Respirable.

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

Material	Type	Value	Form
Manganese Product	VME	1 mg/m ³	Fume.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	VME	1 mg/m ³	Fume.

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Material	Type	Value	Form
Manganese Product	TWA	0,2 mg/m ³ 0,02 mg/m ³	Inhalable fraction. Respirable fraction.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³ 0,02 mg/m ³	Inhalable fraction. Respirable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Material	Type	Value	Form
Manganese Product	AGW	0,5 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	AGW	0,5 mg/m ³	Inhalable fraction.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value	
Manganese Product	STEL	20 mg/m ³	
Components	Type	Value	
Manganese (CAS 7439-96-5)	TWA	5 mg/m ³	
	STEL	20 mg/m ³	
	TWA	5 mg/m ³	

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

Material	Type	Value	Form
Manganese Product	STEL	5 mg/m ³	Total dust.
	TWA	2,5 mg/m ³	Total dust.
		1 mg/m ³	Respirable dust.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	STEL	5 mg/m ³	Total dust.
	TWA	2,5 mg/m ³	Total dust.
		1 mg/m ³	Respirable dust.

Ireland. Occupational Exposure Limits

Material	Type	Value	Form
Manganese Product	STEL	3 mg/m ³	Fume.
	TWA	0,2 mg/m ³	Fume.
		0,2 mg/m ³	
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	STEL	3 mg/m ³	Fume.
	TWA	0,2 mg/m ³	Fume.
		0,2 mg/m ³	

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

Material	Type	Value	Form
Manganese Product	TWA	0,1 mg/m ³	Welding fume.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,1 mg/m ³	Welding fume.

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

Material	Type	Value	Form
Manganese Product	TWA	1 mg/m ³	Inhalable fraction.
		0,5 mg/m ³	Respirable fraction.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	1 mg/m ³	Inhalable fraction.
		0,5 mg/m ³	Respirable fraction.

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value	Form
Manganese Product	TLV	1 mg/m ³	Inhalable fraction.
		0,1 mg/m ³	Respirable fraction.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TLV	1 mg/m ³	Inhalable fraction.
		0,1 mg/m ³	Respirable fraction.

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

Material	Type	Value	Form
Manganese Product	TWA	0,2 mg/m ³	Inhalable fraction.
		0,05 mg/m ³	Respirable fraction.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³	Inhalable fraction.
		0,05 mg/m ³	Respirable fraction.

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

Material	Type	Value	Form
Manganese Product	TWA	0,2 mg/m ³	
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³	

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

Material	Type	Value
Manganese Product	STEL	3 mg/m ³
	TWA	0,5 mg/m ³
Components	Type	Value
Manganese (CAS 7439-96-5)	STEL	3 mg/m ³
	TWA	0,5 mg/m ³

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

Material	Type	Value
Manganese Product	TWA	0,5 mg/m ³
Components	Type	Value
Manganese (CAS 7439-96-5)	TWA	0,5 mg/m ³

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

Material	Type	Value	Form
Manganese Product	TWA	0,5 mg/m ³	Inhalable fraction.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,5 mg/m ³	Inhalable fraction.

Spain. Occupational Exposure Limits

Material	Type	Value
Manganese Product	TWA	0,2 mg/m ³
Components	Type	Value
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³

Sweden. Occupational Exposure Limit Values

Material	Type	Value	Form
Manganese Product	TWA	0,2 mg/m ³	Total dust.
		0,1 mg/m ³	Respirable dust.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³	Total dust.
		0,1 mg/m ³	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
Manganese Product	TWA	0,5 mg/m ³	Inhalable dust.
Components	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,5 mg/m ³	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value
Manganese Product	TWA	0,5 mg/m ³
Components	Type	Value
Manganese (CAS 7439-96-5)	TWA	0,5 mg/m ³

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

Material	Value	Determinant	Specimen	Sampling time
Manganese Product	20 µg/l	Mangan	Blood	*
Components	Value	Determinant	Specimen	Sampling time
Manganese (CAS 7439-96-5)	20 µg/l	Mangan	Blood	*

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

Recommended monitoring procedures	Not available.
Derived no-effect level (DNEL)	Not available.
Predicted no effect concentrations (PNECs)	Not available.

8.2. Exposure controls

Appropriate engineering controls	Not available.
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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	1246 °C (2274,8 °F)
Initial boiling point and boiling range	2061 °C (3741,8 °F)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	< 0,0000001 kPa at 25 °C
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	
Density	7,44 g/cm ³

Molecular formula	Mn
Molecular weight	54,94 g/mol
Specific gravity	7,44

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

Acute toxicity	No data available.
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

Product	Species	Test results
Manganese Product		
Aquatic		
Crustacea	EC50 Water flea (Daphnia magna)	40 mg/l, 48 hours
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

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

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, 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 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Revision information Product and Company Identification: Product Review
Composition / Information on Ingredients: Ingredients

Training information Not available.