



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 powder
Identification number 231-105-1 (EC number)
Registration number -
Document number 1XB
Synonyms None.
Materion Code 1XB
Issue date 14-October-2016
Version number 04
Revision date 06-April-2022

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Chemicals Inc.
Address 407 N. 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Division Milwaukee
Telephone 414.212.0257
e-mail advancedmaterials@materion.com
Contact person Laura Hamilton

1.4. Emergency telephone number

Supersedes date 19-May-2020

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

Identified uses Not available.
Uses advised against None known.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Environmental hazards

Hazardous to the aquatic environment, Category 3
long-term aquatic hazard

Hazard summary Flammable Solid

2.2. Label elements

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

Contains: Manganese

Hazard pictograms



Signal word Warning

Hazard statements

H228 Flammable solid.
H319 Causes serious eye irritation.

Precautionary statements

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

Disposal

P501

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

Supplemental label information

For further information, please contact the Product Stewardship Department at +1.800.862.4118.

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: Flam. Sol. 2;H228, Eye Irrit. 2;H319

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

Nausea, vomiting. Coughing.

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

Powder. Dry sand.

Unsuitable extinguishing media

Water.

5.2. Special hazards arising from the substance or mixture

Water reactive material.

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

Do not get water inside container.

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. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Do not get water on spilled substance or inside containers. The product is immiscible with water and will spread on the water surface. Prevent product from entering drains. Stop the flow of material, if this is without risk. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimise spreading or contact with rain.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not allow water to get into container because of violent reaction and possible flash fire. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Never allow product to get in contact with water during storage. Store in tightly closed container. Keep container dry. Store in a building without sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

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 (CAS 7439-96-5)	MAK	0,2 mg/m ³	Inhalable fraction.
		0,05 mg/m ³	Respirable fraction.
	STEL	1,6 mg/m ³	Inhalable fraction.
		0,16 mg/m ³	Respirable fraction.

Belgium. Exposure Limit Values

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

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

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	MAC	0,2 mg/m ³	Total dust.
		0,05 mg/m ³	Respirable dust.

Czech Republic. OELs. Government Decree 361

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	Ceiling	0,4 mg/m ³	Aerosol, inhalable.
	TWA	0,2 mg/m ³	Aerosol, inhalable.

Denmark. Exposure Limit Values

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	TLV	0,2 mg/m ³	Inhalable fume.
		0,2 mg/m ³	Dust.
		0,05 mg/m ³	Respirable.
		0,05 mg/m ³	Respirable fume.

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

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³	Total dust, respiratory fraction
		0,05 mg/m ³	Fine dust, respiratory fraction

Finland. Workplace Exposure Limits

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

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

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

Regulatory status: Indicative limit (VL)

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 (CAS 7439-96-5)	TWA	0,2 mg/m ³	Inhalable fraction.
		0,02 mg/m ³	Respirable fraction.

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

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

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

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

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

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

Ireland. Occupational Exposure Limits

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	3 mg/m ³	Inhalable fume.
		0,2 mg/m ³	Inhalable fume.
		0,2 mg/m ³	Inhalable fraction.
		0,05 mg/m ³	Respirable fraction.
		0,02 mg/m ³	Respirable fume.

Italy. Occupational Exposure Limits

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,1 mg/m ³	Inhalable fraction.
		0,02 mg/m ³	Respirable fraction.

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

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,2 mg/m ³	Inhalable fraction.
		0,1 mg/m ³	Welding fume.
		0,05 mg/m ³	

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

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

Luxembourg. Binding Occupational exposure limit values (Annex I), Memorial A

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

Netherlands. OELs (binding)

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

Norway. Administrative Norms for Contaminants in the Workplace

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

Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

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

Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)

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

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

Material	Type	Value	Form
Manganese (CAS 7439-96-5)	TWA	0,1 mg/m ³	Inhalable fraction.
		0,02 mg/m ³	Respirable fraction.

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

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

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

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

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 (CAS 7439-96-5)	TWA	0,2 mg/m ³	Inhalable fraction.
		0,05 mg/m ³	Respirable fraction.

Spain. Occupational Exposure Limits

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

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

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

Switzerland. SUVA Grenzwerte am Arbeitsplatz

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

UK. EH40 Workplace Exposure Limits (WELs)

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

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU

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

Biological limit values

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

Material	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 Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation 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	Inform appropriate managerial or supervisory personnel of all environmental releases. 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

Appearance

Physical state	Solid.
Form	Solid.
Colour	Not available.
Odour	Not available.
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 available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	< 0,0000001 kPa (25 °C (77 °F))
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	450 °C (842 °F)
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

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	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material reacts with water.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Exposure to water vapour. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
10.5. Incompatible materials	Water, moisture.

10.6. Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
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 Nausea, vomiting. Coughing.

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

Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	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.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity Harmful to aquatic life with long lasting effects. Due to partial or complete lack of data the classification for hazardous to the aquatic environment, acute hazard, is not possible.

Product	Species	Test Results
Manganese (CAS 7439-96-5)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50 Water flea (<i>Daphnia magna</i>)	40 mg/l, 48 hours
12.2. Persistence and degradability	No data is available on the degradability of this product.	
12.3. Bioaccumulative potential	No data available.	
Partition coefficient n-octanol/water (log Kow)	Not available.	
Bioconcentration factor (BCF)	Not available.	
12.4. Mobility in soil	No data available.	
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. 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	Consult authorities before disposal. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN2813
14.2. UN proper shipping name	WATER-REACTIVE SOLID, N.O.S. (Manganese)
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Label(s)	4.3
Hazard No. (ADR)	423
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN2813
14.2. UN proper shipping name	WATER-REACTIVE SOLID, N.O.S. (Manganese)
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Label(s)	4.3
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN2813
14.2. UN proper shipping name	WATER-REACTIVE SOLID, N.O.S. (Manganese)
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	-
Label(s)	4.3
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN3089
14.2. UN proper shipping name	Metal powders, flammable, N.O.S. (Manganese)
14.3. Transport hazard class(es)	
Class	4.1

Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

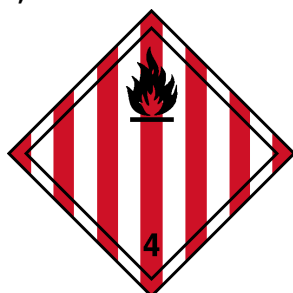
IMDG

14.1. UN number	UN3089
14.2. UN proper shipping name	Metal powders, flammable, N.O.S. (Manganese)
14.3. Transport hazard class(es)	
Class	4.1
Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	No.
EmS	Not available.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN; ADR; RID



IATA; IMDG



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

Not listed.

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

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.

Restrictions on use

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

Not listed.

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. 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.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: European 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: Intermediate Bulk Container.

IMDG: International Maritime Dangerous Goods.

MAC: Maximum Allowed Concentration.

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

PBT: Persistent, bioaccumulative, 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

Not available.

Information on evaluation method leading to the classification of mixture

Not applicable.

Training information

Follow training instructions when handling this material.

Disclaimer

Materion Advanced Chemicals Inc. 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. 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.