



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance Zinc
Identification number 7440-66-6 (CAS number)
Synonyms None.
Materion Code WZN
Issue date 28-April-2015
Version number 02
Revision date 07-July-2015
Supersedes date 28-April-2015

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 Technologies and Services Inc.
Address 2978 Main Street
Buffalo, NY 14214
United States
Division Buffalo
Telephone 716-837-1000
e-mail Not available.
Contact person Not available.

1.4. Emergency telephone number 800-424-9300 Chemtrec

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 Xn;R22, N;R50/53

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

Physical hazards

Substances and mixtures which, in contact with water, emit flammable gases Category 3 H261 - In contact with water releases flammable gases.

Health hazards

Acute toxicity, oral Category 4 H302 - Harmful if swallowed.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard Category 1 H400 - Very toxic to aquatic life.

Hazardous to the aquatic environment, long-term aquatic hazard Category 1 H410 - Very toxic to aquatic life with long lasting effects.

Hazard summary

Physical hazards Not classified for physical hazards.
Health hazards Harmful if swallowed.
Environmental hazards Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards Not available.

2.2. Label elements

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

Contains: Zinc
Hazard pictograms None.

Signal word	Warning
Hazard statements	
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P231 + P232	Handle under inert gas. Protect from moisture.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/eye protection/face protection.

Response

P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P370 + P378	In case of fire: Use appropriate media to extinguish.
P391	Collect spillage.

Storage

P402 + P404	Store in a dry place. Store in a closed container.
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Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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Supplemental label information

100 % of the mixture consists of component(s) of unknown acute oral toxicity.

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
Zinc	99 - 99,9	7440-66-6 231-175-3	-	-	

Classification: **DSD:** -
CLP: Water-React. 3;H261

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

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
Zinc	TWA	2 mg/m ³ 0,1 mg/m ³	Inhalable fraction. Respirable fraction.
Components	Type	Value	Form
Zinc (CAS 7440-66-6)	TWA	2 mg/m ³ 0,1 mg/m ³	Inhalable fraction. Respirable fraction.

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

Material	Type	Value	Form
Zinc	TWA	2 mg/m ³ 0,1 mg/m ³	Inhalable fraction. Respirable fraction.
Components	Type	Value	Form
Zinc (CAS 7440-66-6)	TWA	2 mg/m ³ 0,1 mg/m ³	Inhalable fraction. Respirable fraction.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
Zinc	STEL	4 mg/m ³ 0,4 mg/m ³	Inhalable dust. Respirable dust.
	TWA	2 mg/m ³ 0,1 mg/m ³	Inhalable dust. Respirable dust.
Components	Type	Value	Form
Zinc (CAS 7440-66-6)	STEL	4 mg/m ³ 0,4 mg/m ³	Inhalable dust. Respirable dust.
	TWA	2 mg/m ³ 0,1 mg/m ³	Inhalable dust. Respirable 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.
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Individual protection measures, such as personal protective equipment

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	419,53 °C (787,15 °F)
Initial boiling point and boiling range	907 °C (1664,6 °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)	Not available.
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	7,13 g/cm3 estimated
Molecular formula	Zn

Molecular weight 65,38 g/mol
Specific gravity 7,13 at 25 °C

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

Product	Species	Test results
Zinc		
Acute		
Oral		
LD50	Rat	630 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

Product	Species	Test results
Zinc		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 2,8 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss) 0,56 mg/l, 96 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

14.1. UN number	UN1436
14.2. UN proper shipping name	ZINC POWDER or ZINC DUST
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	4.2
Label(s)	4.3 +4.2
Hazard No. (ADR)	423
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	UN1436
14.2. UN proper shipping name	ZINC POWDER or ZINC DUST
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	4.2
Label(s)	4.3+4.2
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

ADN

14.1. UN number	UN1436
14.2. UN proper shipping name	Zinc Powder Zinc Dust
14.3. Transport hazard class(es)	
Class	4.3
Subsidiary risk	4.2
Label(s)	4.3+4.2
14.4. Packing group	III
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not available.

IATA

14.1. UN number	UN1436
14.2. UN proper shipping name	Zinc dust

14.3. Transport hazard class(es)

Class 4.3

Subsidiary risk 4.2

14.4. Packing group III

14.5. Environmental hazards No.

ERG Code 4SW

14.6. Special precautions for user Not available.

Other information

Passenger and cargo aircraft Allowed.

Cargo aircraft only Allowed.

IMDG

14.1. UN number UN1436

14.2. UN proper shipping name ZINC POWDER or ZINC DUST

14.3. Transport hazard class(es)

Class 4.3

Subsidiary risk 4.2

14.4. Packing group III

14.5. Environmental hazards

Marine pollutant No.

EmS F-G, S-O

14.6. Special precautions for user Not available.

ADN; ADR; IATA; IMDG; 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
Zinc (CAS 7440-66-6)

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

Zinc (CAS 7440-66-6)

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

Zinc (CAS 7440-66-6)

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

R22 Harmful if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

H261 In contact with water releases flammable gases.

Revision information

None.

Training information

Not available.