



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Trade name or designation of the mixture Tin Zinc Based Products
Synonyms None.
Document number WZT
Issue date 28-April-2015
Version number 02
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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 according to Regulation (EC) No 1272/2008 as amended

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 Not classified for health hazards.
Environmental hazards Not classified for hazards to the environment.
Specific hazards Not available.

2.2. Label elements

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

Contains: Tin, Zinc
Hazard pictograms None.
Signal word Warning
Hazard statements
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

Response

P391 Collect spillage.

Storage

Not available.

Disposal

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

Supplemental label information

50 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 50 % 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

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Tin	0 - < 50	7440-31-5 231-141-8	-	-	#
Classification:	DSD: -				
	CLP: -				
Zinc	0 - < 50	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

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

Components	Type	Value	Form
Tin (CAS 7440-31-5)	MAK	2 mg/m ³	Inhalable fraction.
	STEL	4 mg/m ³	Inhalable fraction.

Belgium. Exposure Limit Values.

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m ³

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

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	0,1 mg/m ³

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

Components	Type	Value
Tin (CAS 7440-31-5)	MAC	2 mg/m ³

Czech Republic. OELs. Government Decree 361

Components	Type	Value
Tin (CAS 7440-31-5)	Ceiling	4 mg/m ³
	TWA	2 mg/m ³

Finland. Workplace Exposure Limits

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m ³

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

Components	Type	Value	Form
Tin (CAS 7440-31-5)	TWA	0,02 mg/m ³	Vapor and aerosol, inhalable fraction.
		0,004 ppm	Vapor and aerosol, inhalable fraction.
Zinc (CAS 7440-66-6)	TWA	2 mg/m ³	Inhalable fraction.
		0,1 mg/m ³	Respirable fraction.

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

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m ³

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Tin (CAS 7440-31-5)	STEL	8 mg/m3
	TWA	2 mg/m3

Ireland. Occupational Exposure Limits Components

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

Italy. Occupational Exposure Limits Components

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

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

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace Components

Components	Type	Value
Tin (CAS 7440-31-5)	TLV	2 mg/m3

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

Components	Type	Value	Form
Tin (CAS 7440-31-5)	TWA	2 mg/m3	Inhalable fraction.

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

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

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

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

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

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

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

Components	Type	Value	Form
Tin (CAS 7440-31-5)	STEL	4 mg/m3	
	TWA	2 mg/m3	
Zinc (CAS 7440-66-6)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	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) Components

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

Spain. Occupational Exposure Limits Components

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

Sweden. Occupational Exposure Limit Values Components

Components	Type	Value	Form
Tin (CAS 7440-31-5)	TWA	2 mg/m3	Inhalable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz Components

Components	Type	Value	Form
Zinc (CAS 7440-66-6)	STEL	4 mg/m3	Inhalable dust.
		0,4 mg/m3	Respirable dust.
	TWA	2 mg/m3	Inhalable dust.
		0,1 mg/m3	Respirable dust.

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

Components	Type	Value
Tin (CAS 7440-31-5)	TWA	2 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Not available.
Derived no-effect level (DNEL)	Not available.
Predicted no effect concentrations (PNECs)	Not available.

8.2. Exposure controls

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

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 231,9 °C (449,42 °F) estimated

Initial boiling point and boiling range 907 °C (1664,6 °F) estimated

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure 0,00001 hPa estimated

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Solubility (other) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 630 °C (1166 °F) estimated

Decomposition temperature Not available.

Viscosity Not available.

Explosive properties Not available.

Oxidizing properties Not available.

9.2. Other information

Density 7,20 g/cm3 estimated

Specific gravity 7,2 estimated

SECTION 10: Stability and reactivity

10.1. Reactivity Not available.
10.2. Chemical stability Not available.
10.3. Possibility of hazardous reactions Not available.
10.4. Conditions to avoid Not available.
10.5. Incompatible materials Not available.
10.6. Hazardous decomposition products Not available.

SECTION 11: Toxicological information

General information Not available.

Information on likely routes of exposure

Inhalation Not available.

Skin contact Not available.

Eye contact Not available.

Ingestion Not available.

Symptoms Not available.

11.1. Information on toxicological effects

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 No toxicity data noted for the ingredient(s).

12.2. Persistence and degradability Not available.

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Not available.

Contaminated packaging Not available.
EU waste code Not available.

SECTION 14: Transport information

ADR

14.1. UN number UN3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s.
14.3. Transport hazard class(es)
Class 9
Subsidiary risk -
Label(s) 9
Hazard No. (ADR) 90
Tunnel restriction code E
14.4. Packing group III
14.5. Environmental hazards Yes
14.6. Special precautions for user Not available.

RID

14.1. UN number UN3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s.
14.3. Transport hazard class(es)
Class 9
Subsidiary risk -
Label(s) 9
14.4. Packing group III
14.5. Environmental hazards Yes
14.6. Special precautions for user Not available.

ADN

14.1. UN number UN3077
14.2. UN proper shipping name Environmentally Hazardous Solid, N.o.s.
14.3. Transport hazard class(es)
Class 9
Subsidiary risk -
Label(s) 9
14.4. Packing group III
14.5. Environmental hazards Yes
14.6. Special precautions for user Not available.

IATA

14.1. UN number UN3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s.
14.3. Transport hazard class(es)
Class 9
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards Yes
ERG Code 9L
14.6. Special precautions for user Not available.
Other information
Passenger and cargo aircraft Allowed.
Cargo aircraft only Allowed.

IMDG

14.1. UN number UN3077

14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3. Transport hazard class(es)

Class 9

Subsidiary risk -

14.4. Packing group III

14.5. Environmental hazards

Marine pollutant Yes

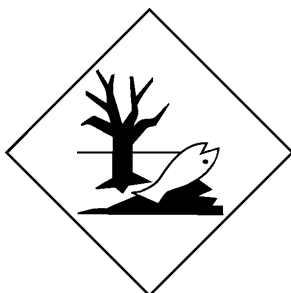
EmS F-A, S-F

14.6. Special precautions for user Not available.

ADN; ADR; IATA; IMDG; RID



Marine pollutant



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

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 H261 In contact with water releases flammable gases.

Revision information None.

Training information Not available.