



CHEMICAL PRODUCT SAFETY DATA SHEET

Prepared in accordance with GB/T 16483 and GB/T 17519.

MATERION

Product name: Copper Zinc Targets

Issue date: 12-03-2019

Revision date: 08-20-2021

Version #: 02

SDS No: G35

SECTION 1 Chemical product and company identification

Chinese name of chemical	铜锌靶	
English name of chemical	Copper Zinc Targets	
Manufacturer/Supplier	Materion Advanced Materials	
Address	6070 Parkland Boulevard Mayfield Heights, OH 44124 United States	
Contact person	Theodore Knudson	
Telephone	EH&S	1.216.383.4019
e-mail	ehs@materion.com	
Emergency telephone number	See Section 16.	
Issue date	12-03-2019	
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SDS No	G35	

SECTION 2 Hazards identification

Emergency overview	Dangerous for the environment if discharged into watercourses. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	
GHS hazard categories		
Physical hazards	Not classified.	
Health hazards	Not classified.	
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1
Label elements		
Pictograms		
Signal word	Warning	
Hazard statement		
H400	Very toxic to aquatic life.	
H410	Very toxic to aquatic life with long lasting effects.	
Precautionary statement		
Prevention		
P273	Observe good industrial hygiene practices. Avoid release to the environment.	
Response		
P391	Wash hands after handling. Collect spillage.	

Storage

P405 Store locked up.

DisposalP501 Dispose of contents/container in accordance with local/regional/national/international regulations.
P502 Refer to manufacturer/supplier for information on recovery/recycling.**Physical and chemical hazards**

The product is stable and non-reactive under normal conditions of use, storage and transport. No unusual fire or explosion hazards noted.

Health hazards

Prolonged inhalation may be harmful. May cause an allergic skin reaction. Expected to be a low ingestion hazard. Direct contact with eyes may cause temporary irritation.

Environmental hazards

Very toxic to aquatic life with long lasting effects.

Supplemental information

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

SECTION 3 Composition/information on ingredients

Substance/mixture Mixture

Chemical name	Concentration (%)	CAS Number
铜 Copper	50 - 75	7440-50-8
锌 Zinc	25 - 50	7440-66-6

SECTION 4 First aid measures**Inhalation**

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Wash hands with water as a precaution.

Eye contact

Flush eyes with water as a precaution.

Ingestion

Rinse mouth. Get medical advice/attention if you feel unwell.

Most important symptoms and health effects

Under normal conditions of intended use, this material does not pose a risk to health.

Personal protection for first-aid responders

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Notes to physician

Treat symptomatically.

SECTION 5 Fire-fighting measures**Extinguishing media**

Powder. Dry sand.

Extinguishing media to avoid

Water.

Specific hazards

This product is not flammable.

Special fire fighting procedures

Move containers from fire area if you can do so without risk.

Protection of fire-fighters

Wear suitable protective equipment.

General fire hazards

No unusual fire or explosion hazards noted.

Specific methods

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

SECTION 6 Accidental release measures**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

Wear appropriate protective equipment and clothing during clean-up. Use personal protection recommended in Section 8 of the SDS.

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.

Clean-up methods and materials and containment measures The product is immiscible with water and will spread on the water surface. Prevent product from entering drains. Clean up in accordance with all applicable regulations. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

Prevention of secondary hazards Not available.

SECTION 7 Handling and storage

Handling Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. Wear gloves to prevent metal cuts and skin abrasions during handling.

Storage Keep locked up. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8 Exposure controls/personal protection

Exposure limits

China OELs. Occupational Exposure Limits for Hazardous Agents in the Workplace, Chemical Hazardous Agents (GBZ 2.1-2007)

Components	Type	Value	Form
Copper (CAS 7440-50-8)	PC-TWA	1 mg/m ³	Dust.
		0.2 mg/m ³	Fume.

Biological limit values No biological exposure limits noted for the ingredient(s).

Monitoring methods Follow standard monitoring procedures.

Engineering measures Good general ventilation (typically 10 air changes per hour) 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.

Personal protective equipment

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection Wear gloves to prevent metal cuts and skin abrasions during handling.

Eye protection Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

Skin and body protection No specific recommendations.

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.

SECTION 9 Physical and chemical properties

Appearance

Physical state Solid.

Form Solid.

Color Yellow.

Odor None.

Odor threshold Not applicable.

pH Not applicable.

Melting point/freezing point 1660 °F (904.44 °C) estimated / Not applicable.

Boiling point, initial boiling point, and boiling range Not applicable.

Flash point Not applicable.

Flammability limit - lower (%) Not applicable.

Flammability limit - upper (%) Not applicable.

Explosive limit - lower (%) Not applicable.

Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Density	8.22 g/cm ³ estimated
Solubility(ies)	
Solubility (water)	Insoluble.
Solubility (other)	Not applicable.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	None known.
Other data	
Explosive properties	Not explosive.
Molecular formula	Not applicable.
Oxidizing properties	Not oxidizing.
Viscosity	Not applicable.

SECTION 10 Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition.

SECTION 11 Toxicological information

Acute toxicity	Not known.
Routes of exposure	None known.
Symptoms	None known.
Skin corrosion/irritation	Not relevant, due to the form of the product.
Serious eye damage/eye irritation	Not likely, due to the form of the product.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitizer	Not a skin sensitizer.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Toxic to reproduction	Not classified.
Specific target organ toxicity following single exposure	Not classified.

Specific target organ toxicity following repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	None known through occupational exposure.

SECTION 12 Ecological information

Ecotoxicological data

Product		Species	Test Results
Copper Zinc Targets			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia	2.8 mg/l, 48 hours estimated
Fish	LC50	Fish	0.0401 mg/l, 96 hours estimated
Components		Species	Test Results
Copper (CAS 7440-50-8)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Blue crab (<i>Callinectes sapidus</i>)	0.0031 mg/l
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	0.0219 - 0.0446 mg/l, 96 hours
Zinc (CAS 7440-66-6)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Bony fish superclass (<i>Osteichthyes</i>)	0.52 - 3.59 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity	Very toxic to aquatic life with long lasting effects.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulation	No data available.
Mobility in soil	The product is immiscible with water and will spread on the water surface.
Other hazardous 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

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

SECTION 14 Transport information

CNDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15 Regulatory information

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Classification of occupational disease hazards

COPPER AND ITS COMPOUNDS (CAS 7440-50-8)

Regulations on the Control over Safety of Dangerous Chemicals

Catalog of Hazardous Chemicals

ZINC ASHES (CAS 7440-66-6)

Provision on the Environmental Administration of New Chemical Substances

China Inventory of Existing Chemical Substances

Country(s) or region	Inventory name	On inventory (yes/no)*
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Other regulations

This safety data sheet conforms to the following laws, regulations and standards:
Measures for the Safe Use of Chemicals in Workplaces
General Rules for Preparation of Precautionary Labels for Chemicals (GB15258-2009)
Regulations on Labor Protection in Workplaces Where Toxic Products Are Used
Packing Symbol of Dangerous Goods(GB190-2009)
Regulations on the Control over Safety of Dangerous Chemicals
Safety Data Sheet for Chemical Products - Content and Order of Sections (GB/T 16483-2008)
Packing - Pictorial Marking for Handling of Goods (GB/T191-2009)

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto protocol

Not applicable.

Basel Convention

Zinc (CAS 7440-66-6)

SECTION 16 Other information

References

EPA: AQUIRE database
GB6944-2012: Classification and Code of Dangerous Goods.
GB12268-2012: List of Dangerous Goods.
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Further information

Transportation Emergency
Call Chemtrec at:
International: 703.741.5970
Spain: 900.868.538
Switzerland: 0800.564.402

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Other information

Revised information in Section 16.