



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance	Copper Tungstate (CuWO ₄)
Identification number	237-022-7 (EC number)
Synonyms	None.
Document number	2IL
Materion Code	2IL
Issue date	23-July-2018
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 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	Noreen Atkinson

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

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

This substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

Hazard summary	Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects. The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.
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2.2. Label elements

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

Contains: Copper Tungstate

Hazard pictograms



Signal word Danger

Hazard statements

H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Precautionary statements

Prevention

P261	Avoid breathing dust/fume/gas/mist/spray.
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P280

Wear protective gloves/protective clothing/eye protection/face protection.

Response

Call a physician if symptoms develop or persist. IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P304 + P340

Storage

P405

Store locked up.

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 acute oral toxicity. 100 % of the mixture consists of component(s) of unknown acute dermal toxicity. 100 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 100 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.
For further information, please contact the Product Stewardship Department at +1.800.862.4118.

2.3. Other hazards

Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients**3.1. Substances****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Copper Tungstate	100	13587-35-4 237-022-7	-	-	
Classification:	Acute Tox. 3;H301, Skin Irrit. 2;H315, Acute Tox. 4;H332, STOT SE 3;H335				

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

M: M-factor

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

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 into fresh air and keep at rest. If breathing has stopped, perform artificial respiration and obtain medical help. Consult a physician for specific advice.

Skin contact

Wash off immediately with soap and plenty of water. Get medical advice/attention if you feel unwell.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Ingestion

Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Exposure may cause temporary irritation, redness, or discomfort.

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**

Use fire-extinguishing media appropriate for surrounding materials. This product is not flammable.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear self-contained breathing apparatus and protective clothing.

Special firefighting procedures Use water spray to cool unopened containers.

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. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up.

6.2. Environmental precautions The product should not be dumped in nature but collected and delivered according to agreement with the local authorities.

6.3. Methods and material for containment and cleaning up Ventilate the area. Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Avoid prolonged exposure. Keep container closed. All handling to take place in well-ventilated area.

7.2. Conditions for safe storage, including any incompatibilities Store in original tightly closed container. 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

Belgium. Exposure Limit Values.

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	10 mg/m ³
	TWA	5 mg/m ³

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

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	10 mg/m ³
	TWA	5 mg/m ³

Denmark. Exposure Limit Values

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	TLV	5 mg/m ³

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

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	TWA	5 mg/m ³

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

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	10 mg/m ³
	TWA	5 mg/m ³

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	4 mg/m ³

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
	TWA	1 mg/m3

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

Material	Type	Value	Form
Copper Tungstate (CAS 13587-35-4)	TWA	5 mg/m3	Dust.

Ireland. Occupational Exposure Limits

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	10 mg/m3
	TWA	5 mg/m3

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

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	TWA	5 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	TLV	5 mg/m3

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	TWA	5 mg/m3

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

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	10 mg/m3
	TWA	5 mg/m3

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

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	TWA	5 mg/m3

Spain. Occupational Exposure Limits

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	10 mg/m3
	TWA	5 mg/m3

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

Material	Type	Value	Form
Copper Tungstate (CAS 13587-35-4)	TWA	5 mg/m3	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
Copper Tungstate (CAS 13587-35-4)	TWA	5 mg/m3	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value
Copper Tungstate (CAS 13587-35-4)	STEL	10 mg/m3
	TWA	5 mg/m3

Biological limit values

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

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 (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.

Individual protection measures, such as personal protective equipment

General information Wear personal protective equipment. 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. Wear suitable gloves.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.

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 Environmental manager must be informed of all major releases.

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 Not available.

Initial boiling point and boiling range Not available.

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 Not available.

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

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

Auto-ignition temperature Not available.

Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Molecular formula	CuO4W
Molecular weight	311,38 g/mol

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 is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidising agents.
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 Exposure may cause temporary irritation, redness, or discomfort.

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	Due to partial or complete lack of data the classification for hazardous to the aquatic environment, is not possible.
12.2. Persistence and degradability	
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	Not a PBT or vPvB substance or mixture.
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.

12.7. Additional information

Estonia Dangerous substances in groundwater Data

Copper Tungstate (CAS 13587-35-4)	Copper (Cu) 1000 UG/L
	Copper (Cu) 15 UG/L

Estonia Dangerous substances in soil Data

Copper Tungstate (CAS 13587-35-4)	Copper (Cu) 100 mg/kg
	Copper (Cu) 150 mg/kg
	Copper (Cu) 500 mg/kg

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	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: 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 and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I 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

Copper Tungstate (CAS 13587-35-4)

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. Additional information is given in the Safety Data Sheet.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

Information on evaluation method leading to the classification of mixture

Not applicable.

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.