



# PRODUCT INFORMATION 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** Navel Brass Product  
**Registration number** -  
**Document number** 390  
**Synonyms** None.  
**Issue date** 31-July-2019  
**Version number** 01

#### 1.3. Details of the supplier of the product information sheet

##### Supplier

**Company name** Materion Advanced Materials Group  
**Address** 42 Mt. Ebo Road South  
Brewster, NY 10509  
United States

##### Division

**Telephone** 1+845.279.0900

**e-mail** Not available.

**Contact person** Not available.

**1.4. Emergency telephone number** Chemtrec 1+703.527.3887

#### 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

The mixture 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

##### Health hazards

Acute toxicity, oral	Category 3	H301 - Toxic if swallowed.
Acute toxicity, inhalation	Category 3	H331 - Toxic if inhaled.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.

##### 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** Toxic if inhaled. Toxic if swallowed. Causes serious eye irritation. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.

#### 2.2. Label elements

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

**Contains:** Copper, Tin, Zinc

##### Hazard pictograms



**Signal word** Danger

## Hazard statements

	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.
H301	Toxic if swallowed.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

## Precautionary statements

### Prevention

P261	Avoid breathing dust.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear eye protection/face protection.

### Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P330	Rinse mouth.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311	Call a POISON CENTRE/doctor.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

### Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

### Disposal

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

85 % 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. 25 % of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 25 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

## 2.3. Other hazards

Not a PBT or vPvB substance or mixture.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Copper	55 - 70	7440-50-8 231-159-6	01-2119480154-42-0080	-	
<b>Classification:</b>	-				
Zinc	30 - 60	7440-66-6 231-175-3	-	030-001-01-9	
<b>Classification:</b>	Water-React. 3;H261				T
Tin	10 - 25	7440-31-5 231-141-8	-	-	#
<b>Classification:</b>	-				

#### 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.

#### Composition comments

The full text for all H-statements is displayed in section 16.

## 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** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center or doctor/physician.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Ingestion** Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**4.2. Most important symptoms and effects, both acute and delayed** Nausea, vomiting. Diarrhoea. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

**4.3. Indication of any immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

## 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. 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** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special firefighting procedures** Move containers from fire area if you can do so without risk.

**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. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

### 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

Minimise dust generation and accumulation. Do not taste or swallow. Avoid breathing dust. Avoid contact with eyes. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

### 7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store in a well-ventilated place. 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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	MAK	1 mg/m <sup>3</sup>	Inhalable fraction.
		0,1 mg/m <sup>3</sup>	Fume and respirable dust.
	STEL	4 mg/m <sup>3</sup>	Inhalable fraction.
Tin (CAS 7440-31-5)		0,4 mg/m <sup>3</sup>	Fume and respirable dust.
	MAK	2 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	4 mg/m <sup>3</sup>	Inhalable fraction.

##### Belgium. Exposure Limit Values.

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Dust and mist.
		0,2 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value
Copper (CAS 7440-50-8)	TWA	0,1 mg/m <sup>3</sup>
Tin (CAS 7440-31-5)	TWA	0,1 mg/m <sup>3</sup>

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	MAC	0,21 mg/m <sup>3</sup>	Dust and fume.
	STEL	2 mg/m <sup>3</sup>	Dust and fume.
Tin (CAS 7440-31-5)	MAC	2 mg/m <sup>3</sup>	

##### Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	0,2 mg/m <sup>3</sup>	Fume.

**Czech Republic. OELs. Government Decree 361 Components**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	Ceiling	2 mg/m <sup>3</sup>	Dust.
		0,2 mg/m <sup>3</sup>	Fume.
	TWA	1 mg/m <sup>3</sup>	Dust.
		0,1 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	Ceiling	4 mg/m <sup>3</sup>	
	TWA	2 mg/m <sup>3</sup>	

**Denmark. Exposure Limit Values Components**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TLV	1 mg/m <sup>3</sup>	Dust.
		0,1 mg/m <sup>3</sup>	Fume.

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Total dust.
		0,2 mg/m <sup>3</sup>	Respirable dust.

**Finland. Workplace Exposure Limits Components**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	0,1 mg/m <sup>3</sup>	Respirable dust and/or fume.
		0,02 mg/m <sup>3</sup>	Respirable.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	VLE	2 mg/m <sup>3</sup>	Dust.
	<b>Regulatory status:</b> Indicative limit (VL)		
	VME	1 mg/m <sup>3</sup>	Dust.
	<b>Regulatory status:</b> Indicative limit (VL)		
		0,2 mg/m <sup>3</sup>	Fume.
	<b>Regulatory status:</b> Indicative limit (VL)		

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	0,01 mg/m <sup>3</sup>	Respirable fraction.
Tin (CAS 7440-31-5)	TWA	0,02 mg/m <sup>3</sup>	Vapor and aerosol, inhalable fraction.
		0,004 ppm	Vapor and aerosol, inhalable fraction.
Zinc (CAS 7440-66-6)	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.
		0,1 mg/m <sup>3</sup>	Respirable fraction.

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	2 mg/m <sup>3</sup>	Dust.
	TWA	1 mg/m <sup>3</sup>	Dust.
		0,2 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces Components**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	4 mg/m <sup>3</sup>	
		0,4 mg/m <sup>3</sup>	Smoke.
		1 mg/m <sup>3</sup>	

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

Components	Type	Value	Form
Tin (CAS 7440-31-5)		0,1 mg/m <sup>3</sup>	Smoke.
	STEL	8 mg/m <sup>3</sup>	
	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Total dust.
		0,1 mg/m <sup>3</sup>	Respirable dust.

**Ireland. Occupational Exposure Limits**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	2 mg/m <sup>3</sup>	Dust and mist.
	TWA	1 mg/m <sup>3</sup>	Dust and mist.
		0,2 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Italy. Occupational Exposure Limits**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Dust and mist.
		0,2 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	1 mg/m <sup>3</sup>	
	TWA	0,5 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Inhalable fraction.
		0,2 mg/m <sup>3</sup>	Respirable fraction.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Netherlands. OELs (binding)**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	0,1 mg/m <sup>3</sup>	Inhalable fraction.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Norway. Administrative Norms for Contaminants in the Workplace**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TLV	1 mg/m <sup>3</sup>	Dust.
		0,1 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	TLV	2 mg/m <sup>3</sup>	

**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**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	0,2 mg/m <sup>3</sup>	
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.

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

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

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Dust and mist.
		0,2 mg/m <sup>3</sup>	Fume.

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

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

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	1,5 mg/m <sup>3</sup>	Dust.
		0,2 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	TWA	0,5 mg/m <sup>3</sup>	Dust.
	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Inhalable fraction.
		0,2 mg/m <sup>3</sup>	Respirable fume.
Tin (CAS 7440-31-5)	STEL	4 mg/m <sup>3</sup>	
	TWA	2 mg/m <sup>3</sup>	
Zinc (CAS 7440-66-6)	TWA	2 mg/m <sup>3</sup>	Inhalable fraction.
		0,1 mg/m <sup>3</sup>	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	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Inhalable fraction.
		0,1 mg/m <sup>3</sup>	Respirable fume.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

**Spain. Occupational Exposure Limits**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Dust and mist.
		0,2 mg/m <sup>3</sup>	Fume.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

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

Components	Type	Value	Form
Copper (CAS 7440-50-8)	TWA	0,01 mg/m <sup>3</sup>	Respirable dust.
Tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	Inhalable dust.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	0,2 mg/m <sup>3</sup>	Inhalable fraction.
	TWA	0,1 mg/m <sup>3</sup>	Inhalable fraction.
Tin (CAS 7440-31-5)	STEL	0,02 mg/m <sup>3</sup>	Inhalable fraction.
		0,004 ppm	Inhalable fraction.
	TWA	0,02 mg/m <sup>3</sup>	Inhalable fraction.
		0,004 ppm	Inhalable fraction.

**UK. EH40 Workplace Exposure Limits (WELs)**

Components	Type	Value	Form
Copper (CAS 7440-50-8)	STEL	2 mg/m <sup>3</sup>	Inhalable dusts and mists.
	TWA	1 mg/m <sup>3</sup>	Inhalable dusts and mists.
		0,2 mg/m <sup>3</sup>	Fume.

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

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

**Biological limit values**

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

<b>Recommended monitoring procedures</b>	Follow standard monitoring procedures.
<b>Derived no effect levels (DNELs)</b>	Not available.
<b>Predicted no effect concentrations (PNECs)</b>	Not available.
<b>8.2. Exposure controls</b>	
<b>Appropriate engineering controls</b>	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. Provide eyewash station.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>General information</b>	Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
- <b>Hand protection</b>	Wear appropriate chemical resistant gloves.
- <b>Other</b>	Wear suitable protective clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment. Dust & vapor respirator.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>Hygiene measures</b>	Keep away from food and drink. 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.
<b>Environmental exposure controls</b>	Inform appropriate managerial or supervisory personnel of all environmental releases. 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.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Solid.
<b>Colour</b>	Not available.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	231,9 °C (449,42 °F) estimated
<b>Initial boiling point and boiling range</b>	907 °C (1664,6 °F) estimated
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapour pressure</b>	0,00001 hPa estimated
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.



<b>Auto-ignition temperature</b>	630 °C (1166 °F) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not explosive.
<b>Oxidising properties</b>	Not oxidising.

## 9.2. Other information

<b>Density</b>	7,97 g/cm <sup>3</sup> estimated
<b>Specific gravity</b>	7,97 estimated

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Acids. Chlorine.
<b>10.6. Hazardous decomposition products</b>	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

<b>General information</b>	Occupational exposure to the substance or mixture may cause adverse effects.
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### Information on likely routes of exposure

<b>Inhalation</b>	Toxic if inhaled.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	Toxic if swallowed.

<b>Symptoms</b>	Nausea, vomiting. Diarrhoea. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
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### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Toxic if inhaled. Toxic if swallowed.
<b>Skin corrosion/irritation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.
<b>Respiratory sensitisation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Skin sensitisation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Germ cell mutagenicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Carcinogenicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)</b>	

Not listed.

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

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	Very toxic to aquatic life with long lasting effects.
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Product	Species		Test Results
Navel Brass Product			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia	4,6667 mg/l, 48 hours estimated
Fish	LC50	Fish	3,6284 mg/l, 96 hours estimated
<b>Components</b>	<b>Species</b>		<b>Test Results</b>

Copper (CAS 7440-50-8)

**Aquatic**

Fish LC50 Western mosquitofish (*Gambusia affinis*) 0,056 mg/l, 96 hours

**12.2. Persistence and degradability**

No data is available on the degradability of any ingredients in the mixture.

**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 (CAS 7440-50-8)	Copper (Cu) 1000 ug/l
	Copper (Cu) 15 ug/l
Tin (CAS 7440-31-5)	Tin (Sn) 150 ug/l
	Tin (Sn) 3 ug/l
Zinc (CAS 7440-66-6)	Zinc (Zn) 50 ug/l
	Zinc (Zn) 5000 ug/l

**Estonia Dangerous substances in soil Data**

Copper (CAS 7440-50-8)	Copper (Cu) 100 mg/kg
	Copper (Cu) 150 mg/kg
	Copper (Cu) 500 mg/kg
Tin (CAS 7440-31-5)	Tin (Sn) 10 mg/kg
	Tin (Sn) 300 mg/kg
	Tin (Sn) 50 mg/kg
Zinc (CAS 7440-66-6)	Zinc (Zn) 1000 mg/kg
	Zinc (Zn) 200 mg/kg
	Zinc (Zn) 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. 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** UN3077

**14.2. UN proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Copper)

### 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. (Copper)

### 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 Read safety instructions, SDS and emergency procedures before handling.

### ADN

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

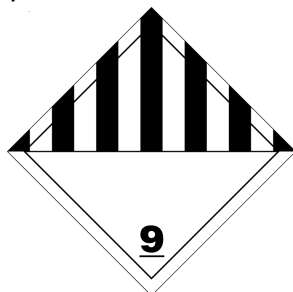
### IATA

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

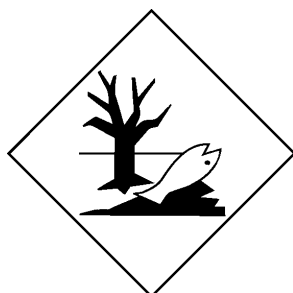
### IMDG

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

### ADR; 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 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 (CAS 7440-50-8)

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.

**Restrictions on use**

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

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.

**Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Copper (CAS 7440-50-8)

Zinc (CAS 7440-66-6)

**Other regulations**

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

**National regulations**

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended. 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**

Not available.

**References**

Not available.

**Training information**

Follow training instructions when handling this material.

**Disclaimer**

Materion Advanced Materials Group 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. To avoid any misunderstandings or incorrect assumptions by the receiver of the safety information, it should be made clear that the supplied information is not in the form of a Safety Data Sheet (SDS), but is actually a voluntary Product Information Sheet closely following the guidelines of the Safety Data Sheet – COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 (REACH/SDS).