SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 as amended by Commission Regulation (EU) 2020/878 and Regulation (EC) No. 1272/2008

Issuing Date 09-Dec-2022 **Revision Date** 09-Dec-2022 **Revision Number** 1

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

1.1. Product identifier

Product Code(s) 10110, 10114, 10118, 10710, 10714

Product Name A10 Paint Marker/A20 Paint Marker – Silver, Gold, and Copper

Synonyms None

Pure substance/mixture Substance

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use Solvent based marker

Uses advised against Keep away from children

1.3. Details of the supplier of the safety data sheet

Manufacturer
U-Mark, Inc
102 Iowa Ave.
Belleville, IL 62220
TEL: 618-235-7500

For further information, please contact
E-mail address compliance@umarkers.com

1.4. Emergency telephone number

Emergency telephone 24-hour Emergency Phone: Infotrac 1-800-535-5053 (USA & Canada), 1-352-323-3500 (International)

Emergency telephone - §45 - (EC)1272/2008	
Europe	**112**

SECTION 2: Hazards identification

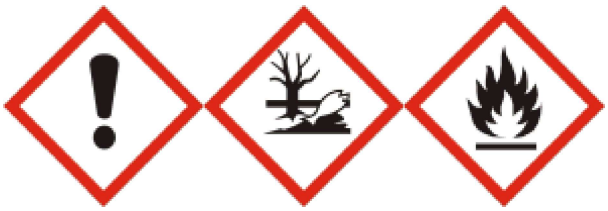
2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Flammable liquids	Category 3 - (H226)
Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Specific target organ toxicity (single exposure)	Category 3 - (H336)
Category 3 Narcotic effects	
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains Propylene glycol monomethyl ether, Aluminum powder (stabilized), Zinc



Signal word
Warning

Hazard statements
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects
H226 - Flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P264 - Wash face, hands and any exposed skin thoroughly after handling
P273 - Avoid release to the environment
P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or alcohol-resistant foam to extinguish
P391 - Collect spillage
P501 - Dispose of contents/ container to an approved waste disposal plant

Unknown acute toxicity
50 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

Additional information
This product requires tactile warnings if supplied to the general public.

2.3. Other hazards
Toxic to aquatic life.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
Propylene glycol monomethyl ether 107-98-2	50-100	No data available	(603-064-00-3) 203-539-1	STOT SE 3 (H336) Flam. Liq. 3 (H226)	-	-	-
Copper 7440-50-8	10-25	No data available	(029-024-00-X) 231-159-6	Aquatic Chronic 2 (H411)	-	-	-
Aluminum powder (stabilized) 7429-90-5	10-25	01-2119529243-45-XXXX	(013-002-00-1) 231-072-3	Flam. Sol. 1 (H228) Water-react. 2 (H261)	-	-	-
Zinc	2.5-10	No data	(030-001-01-9)	Aquatic Acute	-	-	-

7440-66-6		available	(030-001-00-1) 231-175-3	1 (H400) Aquatic Chronic 1 (H410) Pyr. Sol. 1 (H250) Water-react. 1 (H260)			

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
Propylene glycol monomethyl ether 107-98-2	5000	13000	No data available	34.1575	No data available
Copper 7440-50-8	No data available	No data available	5.1151	No data available	No data available
Aluminum powder (stabilized) 7429-90-5	No data available	No data available	0.8889	No data available	No data available
Zinc 7440-66-6	630	No data available	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. IF exposed or concerned: Get medical advice/attention. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get medical attention.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid breathing vapors or mists.

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

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Coughing and/ or wheezing. Difficulty in breathing.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3. Advice for firefighters

Specific/special fire-fighting measures Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Avoid breathing vapors or mists.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information See section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Use personal protection equipment. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children.

Storage class (TRGS 510) Storage class 3.

7.3. Specific end use(s)

Specific use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Propylene glycol monomethyl ether 107-98-2	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ *	TWA: 50 ppm TWA: 187 mg/m³ STEL 50 ppm STEL 187 mg/m³ Ceiling: 50 ppm Ceiling: 187 mg/m³ H*	TWA: 50 ppm TWA: 184 mg/m³ STEL: 100 ppm STEL: 369 mg/m³ D*	STEL: 150 ppm STEL: 568.0 mg/m³ TWA: 100 ppm TWA: 375.0 mg/m³ K*	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³
Copper 7440-50-8	-	TWA: 1 mg/m³ TWA: 0.1 mg/m³ STEL 4 mg/m³ STEL 0.4 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³	TWA: 0.1 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³ STEL: 2 mg/m³
Aluminum powder (stabilized) 7429-90-5	-	TWA: 10 mg/m³ STEL 20 mg/m³	TWA: 1 mg/m³	TWA: 10.0 mg/m³ TWA: 1.5 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Propylene glycol	*	TWA: 270 mg/m³	TWA: 50 ppm	S+	TWA: 100 ppm

monomethyl ether 107-98-2	STEL: 150 ppm STEL: 568 mg/m³ TWA: 100 ppm TWA: 375 mg/m³	Ceiling: 550 mg/m³ D*	TWA: 185 mg/m³ H*	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ A*	TWA: 370 mg/m³ STEL: 150 ppm STEL: 560 mg/m³ iho*
Copper 7440-50-8	-	TWA: 1 mg/m³ TWA: 0.1 mg/m³ Ceiling: 2 mg/m³ Ceiling: 0.2 mg/m³	TWA: 1.0 mg/m³ TWA: 0.1 mg/m³	TWA: 1 mg/m³ TWA: 0.2 mg/m³	TWA: 0.02 mg/m³
Aluminum powder (stabilized) 7429-90-5	-	TWA: 10.0 mg/m³	TWA: 5 mg/m³ TWA: 2 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³	TWA: 1.5 mg/m³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Propylene glycol monomethyl ether 107-98-2	TWA: 50 ppm TWA: 188 mg/m³ STEL: 100 ppm STEL: 375 mg/m³ *	TWA: 100 ppm TWA: 370 mg/m³	TWA: 100 ppm TWA: 370 mg/m³ Peak: 200 ppm Peak: 740 mg/m³	TWA: 100 ppm TWA: 360 mg/m³ STEL: 300 ppm STEL: 1080 mg/m³ *	TWA: 375 mg/m³ STEL: 568 mg/m³ b*
Copper 7440-50-8	TWA: 0.2 mg/m³ TWA: 1 mg/m³ STEL: 2 mg/m³	-	TWA: 0.01 mg/m³ Peak: 0.02 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³ STEL: 2 mg/m³	TWA: 0.1 mg/m³ TWA: 0.01 mg/m³ STEL: 0.2 mg/m³
Aluminum powder (stabilized) 7429-90-5	TWA: 10 mg/m³ TWA: 5 mg/m³	TWA: 1.25 mg/m³ TWA: 10 mg/m³	TWA: 4 mg/m³ TWA: 1.5 mg/m³	TWA: 10 mg/m³ TWA: 5 mg/m³	TWA: 1 mg/m³
Zinc 7440-66-6	-	-	TWA: 0.1 mg/m³ TWA: 2 mg/m³ Peak: 0.4 mg/m³ Peak: 4 mg/m³	-	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Propylene glycol monomethyl ether 107-98-2	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ cute*	TWA: 50 ppm TWA: 184 mg/m³ STEL: 100 ppm STEL: 368 mg/m³	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ Ada*	O* TWA: 190 mg/m³ TWA: 50 ppm STEL: 300 mg/m³ STEL: 75 ppm
Copper 7440-50-8	TWA: 0.2 mg/m³ TWA: 1 mg/m³ STEL: 2 mg/m³ STEL: 0.6 mg/m³	-	TWA: 0.2 mg/m³	TWA: 0.5 mg/m³ STEL: 1 mg/m³	TWA: 1 mg/m³ TWA: 0.2 mg/m³
Aluminum powder (stabilized) 7429-90-5	TWA: 1 mg/m³ STEL: 3 mg/m³	-	TWA: 1 mg/m³	TWA: 2 mg/m³	TWA: 5 mg/m³ TWA: 2 mg/m³ TWA: 1 mg/m³
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Propylene glycol monomethyl ether 107-98-2	Peau* STEL: 150 ppm STEL: 568 mg/m³ TWA: 100 ppm TWA: 375 mg/m³	skin* STEL: 150 ppm STEL: 568 mg/m³ TWA: 100 ppm TWA: 375 mg/m³	TWA: 375 mg/m³ STEL: 563 mg/m³ H*	TWA: 50 ppm TWA: 180 mg/m³ STEL: 75 ppm STEL: 225 mg/m³ H*	STEL: 360 mg/m³ TWA: 180 mg/m³ skóra*
Copper 7440-50-8	-	-	TWA: 0.1 mg/m³	TWA: 0.1 mg/m³ TWA: 1 mg/m³ STEL: 3 mg/m³ STEL: 0.3 mg/m³	TWA: 0.2 mg/m³
Aluminum powder (stabilized) 7429-90-5	-	-	-	TWA: 5 mg/m³ STEL: 10 mg/m³	TWA: 2.5 mg/m³ TWA: 1.2 mg/m³
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Propylene glycol monomethyl ether 107-98-2	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ P*	TWA: 100 ppm TWA: 375 mg/m³ K* Ceiling: 568 mg/m³	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ K*	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 568 mg/m³ vía dérmica*

Copper 7440-50-8	TWA: 0.2 mg/m³ TWA: 1 mg/m³	TWA: 0.5 mg/m³ STEL: 0.2 mg/m³ STEL: 1.5 mg/m³	TWA: 1 mg/m³ TWA: 0.2 mg/m³	-	TWA: 0.01 mg/m³
Aluminum powder (stabilized) 7429-90-5	TWA: 1 mg/m³	TWA: 3 mg/m³ TWA: 1 mg/m³ STEL: 10 mg/m³ STEL: 3 mg/m³	TWA: 4 mg/m³ TWA: 1.5 mg/m³	-	TWA: 1 mg/m³
Zinc 7440-66-6	-	-	TWA: 0.1 mg/m³ TWA: 2 mg/m³	-	-

Chemical name	Sweden	Switzerland	United Kingdom
Propylene glycol monomethyl ether 107-98-2	NGV: 50 ppm NGV: 190 mg/m³ Bindande KGV: 150 ppm Bindande KGV: 568 mg/m³ H*	TWA: 100 ppm TWA: 360 mg/m³ STEL: 200 ppm STEL: 720 mg/m³	TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³ Sk*
Copper 7440-50-8	NGV: 0.01 mg/m³	TWA: 0.1 mg/m³ STEL: 0.2 mg/m³	TWA: 1 mg/m³ TWA: 0.2 mg/m³ STEL: 0.6 mg/m³ STEL: 2 mg/m³
Aluminum powder (stabilized) 7429-90-5	NGV: 5 mg/m³ NGV: 2 mg/m³	TWA: 3 mg/m³ TWA: 10 mg/m³	TWA: 10 mg/m³ TWA: 4 mg/m³ STEL: 30 mg/m³ STEL: 12 mg/m³

Biological occupational exposure limits

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
Aluminum powder (stabilized) 7429-90-5	-	60 µg/g Creatinine (urine - Aluminum after end of work day, at the end of a work week/end of the shift) (-)	-	200 µg/L - urine (Aluminum) - at the end of the work shift	-

Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
Propylene glycol monomethyl ether 107-98-2	-	-	-	15 mg/L (urine - 1-Methoxypropan-2-ol end of shift) 15 mg/L - BAT (end of exposure or end of shift) urine	15 mg/L (urine - 1-Methoxypropan-2-ol end of shift)
Aluminum powder (stabilized) 7429-90-5	-	-	-	50 µg/g Creatinine (urine - Aluminum for long-term exposures: at the end of the shift after several shifts) 50 µg/g Creatinine - BAT (for long-term exposures: at the end of the shift after several shifts) urine 15 µg/g Creatinine - BAR (for long-term exposures: at the end of the shift after several shifts) urine	50 µg/g Creatinine (urine - Aluminum for long-term exposures: at the end of the shift after several shifts)

Chemical name	Latvia	Luxembourg	Romania	Slovakia
Aluminum powder (stabilized)	-	-	200 µg/L - urine (Aluminum) - end of shift	60 µg/g creatinine (urine - Aluminum not critical)

7429-90-5				
Chemical name	Slovenia	Spain	Switzerland	United Kingdom
Propylene glycol monomethyl ether 107-98-2	15 mg/L - urine (1-Methoxypropan-2-ol) - at the end of the work shift	-	20 mg/L (urine - 1-Methoxypropanol-2 end of shift) 221.9 µmol/L (urine - 1-Methoxypropanol-2 end of shift)	-
Aluminum powder (stabilized) 7429-90-5	50 µg/L - urine (Aluminum) - for long-term exposure: at the end of the work shift after several consecutive workdays	-	50 µg/g creatinine (urine - Aluminum after several shifts (for long-term exposures)) 0.21 µmol/mmol creatinine (urine - Aluminum after several shifts (for long-term exposures))	-

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
Propylene glycol monomethyl ether 107-98-2	-	183 mg/kg bw/day [4] [6]	369 mg/m³ [4] [6] 553.5 mg/m³ [4] [7] 553.5 mg/m³ [5] [7]
Copper 7440-50-8	-	137 mg/kg bw/day [4] [6] 273 mg/kg bw/day [4] [7]	-
Zinc 7440-66-6	-	83 mg/kg bw/day [4] [6]	5 mg/m³ [4] [6]

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
Propylene glycol monomethyl ether 107-98-2	33 mg/kg bw/day [4] [6]	-	43.9 mg/m³ [4] [6]
Copper 7440-50-8	0.041 mg/kg bw/day [4] [6]	273 mg/kg bw/day [4] [6] 273 mg/kg bw/day [4] [7]	1 mg/m³ [5] [6] 1 mg/m³ [5] [7]
Zinc 7440-66-6	0.83 mg/kg bw/day [4] [6]	-	2.5 mg/m³ [4] [6]

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.
[7] Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Propylene glycol monomethyl ether 107-98-2	10 mg/L	100 mg/L	1 mg/L	-	-
Copper	7.8 µg/L	-	5.2 µg/L	-	-

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
7440-50-8					
Zinc 7440-66-6	20.6 µg/L	-	6.1 µg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
Propylene glycol monomethyl ether 107-98-2	52.3 mg/kg sediment dw	5.2 mg/kg sediment dw	100 mg/L	4.59 mg/kg soil dw	-
Copper 7440-50-8	87 mg/kg sediment dw	676 mg/kg sediment dw	230 µg/L	65 mg/kg soil dw	-
Aluminum powder (stabilized) 7429-90-5	-	-	20 mg/L	-	-
Zinc 7440-66-6	235.6 mg/kg sediment dw	121 mg/kg sediment dw	100 µg/L	106.8 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
Physical state Liquid
Color Varies
Odor Alcohol-like
Odor threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point		No data available
Initial boiling point and boiling range	120 °C	

Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Flash point	31 °C	
Autoignition temperature		Does not ignite
Decomposition temperature		No data available
pH		No data available
pH (as aqueous solution)		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Water solubility	Miscible in water	
Solubility(ies)		No data available
Partition coefficient		No data available
Vapor pressure		No data available
Relative density		No data available
Bulk density		No data available
Liquid Density		No data available
Vapor density		No data available
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity None under normal use conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data
Sensitivity to mechanical impact None.
Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks. Excessive heat.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation May cause drowsiness or dizziness. Specific test data for the substance or mixture is not available. Harmful by inhalation. (based on components).

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Coughing and/ or wheezing.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document:
ATEmix (oral) 1,393.80 mg/kg
ATEmix (inhalation-dust/mist) 3.56 mg/l

Unknown acute toxicity
50 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Propylene glycol monomethyl ether	= 5000 mg/kg (Rat)	= 13 g/kg (Rabbit)	> 7559 ppm (Rat) 6 h
Copper	-	-	> 5.11 mg/L (Rat) 4 h
Aluminum powder (stabilized)	-	-	> 0.888 mg/L (Rat) 4 h
Zinc	= 630 mg/kg (Rat)	-	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Propylene glycol monomethyl ether 107-98-2	-	LC50: =20.8g/L (96h, Pimephales promelas)	-	EC50: =23300mg/L (48h, Daphnia magna)
Copper 7440-50-8	EC50: 0.0426 - 0.0535mg/L (72h, Pseudokirchneriella subcapitata) EC50: 0.031 - 0.054mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 0.0068 - 0.0156mg/L (96h, Pimephales promelas) LC50: <0.3mg/L (96h, Pimephales promelas) LC50: =0.2mg/L (96h, Pimephales promelas) LC50: =0.052mg/L (96h, Oncorhynchus mykiss) LC50: =1.25mg/L (96h, Lepomis macrochirus) LC50: =0.3mg/L (96h, Cyprinus carpio) LC50: =0.8mg/L (96h, Cyprinus carpio) LC50: =0.112mg/L (96h, Poecilia reticulata)	-	EC50: =0.03mg/L (48h, Daphnia magna)
Zinc 7440-66-6	EC50: 0.11 - 0.271mg/L (96h, Pseudokirchneriella subcapitata) EC50: 0.09 - 0.125mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 2.16 - 3.05mg/L (96h, Pimephales promelas) LC50: 0.211 - 0.269mg/L (96h, Pimephales promelas) LC50: =2.66mg/L (96h, Pimephales promelas) LC50: =30mg/L (96h, Cyprinus carpio) LC50: =0.45mg/L (96h, Cyprinus carpio) LC50: =7.8mg/L (96h, Cyprinus carpio) LC50: =3.5mg/L (96h, Lepomis macrochirus)	-	EC50: 0.139 - 0.908mg/L (48h, Daphnia magna)

		LC50: =0.24mg/L (96h, Oncorhynchus mykiss) LC50: =0.59mg/L (96h, Oncorhynchus mykiss) LC50: =0.41mg/L (96h, Oncorhynchus mykiss)		

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Propylene glycol monomethyl ether	1

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

Chemical name	PBT and vPvB assessment
Propylene glycol monomethyl ether 107-98-2	The substance is not PBT / vPvB
Copper 7440-50-8	The substance is not PBT / vPvB
Aluminum powder (stabilized) 7429-90-5	The substance is not PBT / vPvB
Zinc 7440-66-6	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

Waste codes / waste designations according to EWC / AVV According to the European Waste Catalog, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IMDG

14.1 UN number or ID number	UN1210
14.2 UN proper shipping name	PRINTING INK
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1210, PRINTING INK, 3, III, (31°C C.C.)
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	163, 223, 367, 955
EmS-No	F-E, S-D
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number	UN1210
14.2 UN proper shipping name	PRINTING INK
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1210, PRINTING INK, 3, III
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	163, 367
Classification code	F1

ADR

14.1 UN number or ID number	UN1210
14.2 UN proper shipping name	PRINTING INK
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1210, PRINTING INK, 3, III
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	163, 367
Classification code	F1
Tunnel restriction code	(D/E)

IATA

14.1 UN number or ID number	UN1210
14.2 UN proper shipping name	Printing ink
14.3 Transport hazard class(es)	3
14.4 Packing group	III
Description	UN1210, Printing ink, 3, III
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	A3, A72, A192
ERG Code	3L
Note:	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

France
Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Propylene glycol monomethyl ether	RG 84

107-98-2	
Aluminum powder (stabilized) 7429-90-5	RG 32 RG 16,RG 16bis
Zinc 7440-66-6	RG 61

Germany

Water hazard class (WGK) obviously hazardous to water (WGK 2)

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Copper - 7440-50-8	75.	-
Aluminum powder (stabilized) - 7429-90-5	75.	-
Zinc - 7440-66-6	75.	-

Persistent Organic Pollutants

Not applicable

Dangerous substance category per Seveso Directive (2012/18/EU)

P5a - FLAMMABLE LIQUIDS
P5b - FLAMMABLE LIQUIDS
P5c - FLAMMABLE LIQUIDS
E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Biocidal Products Regulation (EU) No 528/2012 (BPR)

Chemical name	Biocidal Products Regulation (EU) No 528/2012 (BPR)
Copper - 7440-50-8	Product-type 8: Wood preservatives Product-type 21: Antifouling products

International Inventories

Contact supplier for inventory compliance status

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H226 - Flammable liquid and vapor

H228 - Flammable solid
H250 - Catches fire spontaneously if exposed to air
H260 - In contact with water releases flammable gases which may ignite spontaneously
H261 - In contact with water releases flammable gas
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H411 - Toxic to aquatic life with long lasting effects

Legend
ATE: Acute Toxicity Estimate
SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	On basis of test data
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	On basis of test data
Chronic aquatic toxicity	On basis of test data
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date	09-Dec-2022
Revision Date	09-Dec-2022
Revision Note	Initial Release.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet