

上海纳诺微新材料科技有限公司

Safety Data Sheet

Permanent Marker Ink

Version: 1.1

Creation Date: 2022/07/27

Revision Date: 2022/07/27

Color: coloured

Country of Destination: EU

*Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

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

1.1 Product identifier

Product Name	Permanent Marker Ink
Synonyms	—
CAS NO.	—
EC NO.	—
Chemical Formula	—

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

Relevant identified uses	To write
Uses advised against	—

1.3 Details of the supplier of the Safety Data Sheet

Name of the company	Shanghai NNW New Materials Technology Co., Ltd.
Address of the company	ROOM 402, Building17, Lane 268, Lingxin Road, Changning District Shanghai, CHINA
Post code	200335
Telephone number	021-64476059
Fax number	021-64476096
Email	sales@nnwchina.com

1.4 Emergency phone number



Emergency phone number	+8613311812200
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SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008	H225-Highly flammable liquid and vapour Category 2
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2.2 Label elements

Hazard pictogram(s)	 
Signal word	Danger! Warning!
Hazard statements	H225 Highly flammable liquid and vapour. H226 Flammable liquid and vapour. H336 May cause drowsiness or dizziness.

2.2.1 Supplementary statement(s))

EUH210	Safety data sheet available on request.
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2.3 Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P371+P313	If eye irritation persists: Get medical advice/attention.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.4 Other hazard

Not Applicable

SECTION 3 Composition/information on ingredients

3.1 Substances

See 'Composition on ingredients' in Section 3.

3.2 Mixtures

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC)No 1272/2008 [CLP] and amendments	Nanoform Particle Characteristics	SCL/M-Factor/ATF
Common ingredients on each color					
1.65997-05-9 2.500-163-2 3.Not Available 4.01-2119964093-37-0006	35.0-45.0	Polymerized Rosin	Not Classified	Not Applicable	Not Applicable
1.57-55-6 2.200-338-0 3.Not Available 4.01-2119456809-23-0179	8.0	Propane-1,2-diol	Not Classified	Not Applicable	Not Applicable
1.56-81-5 2.200-289-5 3.Not Available 4.Not Available	18.0	Glycerol	Not Classified	Not Applicable	Not Applicable
1.107-98-2 2.203-539-1 3.603-064-00-3 4.01-2119457435-35-0042	14.0	1-methoxypropan-2-ol	Flam. Liquid Category 3; H226 STOT SE Category 3; H336	Not Applicable	Not Applicable
1.64-17-5 2.200-578-6 3.603-002-00-5 4.Not Available	4.0-19.0	Ethanol	Flam. Liquid Category 2; H225	Not Applicable	Not Applicable
Additional ingredients on each color					
Black/Grey					
1.2650-18-2 2.220-168-0 3.Not Available 4.Not Available	2.0-3.0	C.I. Acid Blue 9	Not Classified	Not Applicable	Not Applicable
1.12237-31-9 2.602-681-5 3.Not Available 4.Not Available	2.0-4.0	C.I. Solvent Yellow 79	Not Classified	Not Applicable	Not Applicable
1.12227-55-3 2.602-483-9 3.Not Available 4.Not Available	2.0-3.0	Solvent Red 122	Not Classified	Not Applicable	Not Applicable
Light red/Red/Dark red					
1.12227-55-3 2.602-483-9 3.Not Available 4.Not Available	8.0-10.0	Solvent Red 122	Not Classified	Not Applicable	Not Applicable
Light blue/Sky blue/Blue/Dark blue					
1.2650-18-2 2.220-168-0 3.Not Available 4.Not Available	8.0-10.0	C.I. Acid Blue 9	Not Classified	Not Applicable	Not Applicable

1.CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC)No 1272/2008 [CLP] and amendments	Nanoform Particle Characteristics	SCL/M-Factor/ATF
Light green/Green/Dark green					
1.12237-24-0 2.602-674-7 3.Not Available 4.Not Available	3.0-4.0	Solvent Blue 70	Not Classified	Not Applicable	Not Applicable
1.12237-31-9 2.602-681-5 3.Not Available 4.Not Available	4.0-6.0	C.I. Solvent Yellow 79	Not Classified	Not Applicable	Not Applicable
Light yellow/Yellow/Dark yellow					
1.12237-31-9 2.602-681-5 3.Not Available 4.Not Available	8.0-11.0	C.I. Solvent Yellow 79	Not Classified	Not Applicable	Not Applicable
Light orange/Orange/Dark orange					
1.12237-31-9 2.602-681-5 3.Not Available 4.Not Available	4.0-6.0	C.I. Solvent Yellow 79	Not Classified	Not Applicable	Not Applicable
1.12227-55-3 2.602-483-9 3.Not Available 4.Not Available	2.0-4.0	Solvent Red 122	Not Classified	Not Applicable	Not Applicable
Light pink/Pink/Dark pink/Rose					
1.2650-18-2 2.220-168-0 3.Not Available 4.Not Available	4.0-6.0	C.I.Acid Blue 9	Not Classified	Not Applicable	Not Applicable
1.12227-55-3 2.602-483-9 3.Not Available 4.Not Available	4.0-6.0	Solvent Red 122	Not Classified	Not Applicable	Not Applicable
Light purple/Purple/Dark purple					
1.12237-24-0 2.602-674-7 3.Not Available 4.Not Available	3.0-5.0	Solvent Blue 70	Not Classified	Not Applicable	Not Applicable
1.12227-55-3 2.602-483-9 3.Not Available 4.Not Available	4.0-6.0	Solvent Red 122	Not Classified	Not Applicable	Not Applicable
Light brown/Brown/Dark brown/Coffee					
1.12227-55-3 2.602-483-9 3.Not Available 4.Not Available	2.0-3.0	Solvent Red 122	Not Classified	Not Applicable	Not Applicable
1.12237-24-0 2.602-674-7 3.Not Available 4.Not Available	2.0-3.0	Solvent Blue 70	Not Classified	Not Applicable	Not Applicable
1.12237-31-9 2.602-681-5 3.Not Available 4.Not Available	4.0-5.0	C.I. Solvent Yellow 79	Not Classified	Not Applicable	Not Applicable

SECTION 4 First aid measures

4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of water for at least 15minutes and consult a physician if feel uncomfortable.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically	Periodic medical surveillance should be carried out on persons in occupations exposed to the manufacture or bulk handling of the product and this should include hepatic function tests and urinalysis examination. [ILO Encyclopaedia]
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<p>For acute or short term repeated exposures to ethanol</p>	<ul style="list-style-type: none"> ➤ Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K). ➤ Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination. ➤ Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine). ➤ Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions. ➤ Fructose administration is contra-indicated due to side effects.
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SECTION 5 Firefighting measures

5.1 Extinguishing media

<p>Suitable extinguishing media</p>	<p>CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.</p>
<p>Unsuitable extinguishing media</p>	<p>Water with full jet</p>

5.2 Special hazards arising from the substrate or mixture

No further relevant information available.

5.3 Advice for firefighters

<p>1</p>	<p>As in any fire, wear self-contained breathing apparatus(MSHA/NIOSH approved or equivalent)and full protective gear.</p>
<p>2</p>	<p>Fight fire from a safe distance, with adequate cover.</p>
<p>3</p>	<p>Prevent fire extinguishing water from contaminating surface water or the ground water system.</p>
<p>Hazardous Combustion Products</p>	<p>During a fire, smoke may contain the original material in addition to combustion products of varying composition which maybe toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.</p>

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

<p>1</p>	<p>Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.</p>
<p>2</p>	<p>Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.</p>
<p>3</p>	<p>Use personal protective equipment. Avoid breathing vapours, mist, gas or dust.</p>
<p>4</p>	<p>Avoid contact with eyes.</p>
<p>5</p>	<p>Avoid contact with skin.</p>

6.2 Environmental precautions

<p>1</p>	<p>Do not allow to enter sewers/ surface or ground water.</p>
<p>2</p>	<p>Discharge into the environment must be avoided.</p>

6.3 Methods and material for containment and cleaning up

<p>1</p>	<p>Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).</p>
<p>2</p>	<p>Dispose contaminated material as waste according to item 13.</p>
<p>3</p>	<p>Ensure adequate ventilation.</p>

SECTION 7 Handling and storage

7.1 Precautions for handling

➤ Protective measure

<p>1</p>	<p>Ensure good ventilation/exhaustion at the workplace.</p>
<p>2</p>	<p>Keep receptacles tightly sealed.</p>
<p>3</p>	<p>Keep away from heat and direct sunlight.</p>
<p>4</p>	<p>Prevent formation of aerosols.</p>
<p>5</p>	<p>Avoid contact with skin and eyes.</p>
<p>6</p>	<p>For the general occupational hygienic measures refer to section 8.</p>

➤ Information about fire - and explosion protection

1	Keep ignition sources away - Do not smoke.
2	Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed .
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and food stuff containers.

7.3 Specific end use(s)

In addition to use mentioned in the first parts, unforeseen other specific end uses.

SECTION 8 Exposure controls/personal protection

8.1 Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Polymerized Rosin	Dermal 2.131 mg/kg bw/day (Systemic, Chronic) Dermal 1.065 mg/kg bw/day (Systemic, Chronic)* Oral 1.065 mg/kg bw/day (Systemic, Chronic)*	0.0016 mg/L (Water (Fresh)) 0.016 mg/L (Water - Intermittent release) 0.00016 mg/L (Water (Marine)) 0.0007 mg/kg sediment dw (Sediment (Marine)) 0.00045 mg/kg soil dw (Soil) 1000 mg/L (STP)
Propane-1,2-diol	Inhalation 10 mg/m ³ (Local, Chronic) Inhalation 168 mg/m ³ (Systemic, Chronic) Inhalation 10 mg/m ³ (Local, Chronic)* Inhalation 50 mg/m ³ (Systemic, Chronic)*	260 mg/L (Water (Fresh)) 183 mg/L (Water - Intermittent release) 26 mg/L (Water (Marine)) 572 mg/kg sediment dw (Sediment (Fresh Water)) 57.2 mg/kg sediment dw (Sediment (Marine)) 50 mg/kg soil dw (Soil) 20000 mg/L (STP)
Glycerol	Inhalation 220 mg/m ³ (Local, Chronic) Inhalation 132 mg/m ³ (Local, Chronic) *	0.885mg/L (Water (Fresh)) 0.088 mg/L (Water - Intermittent release) 8.85 mg/L (Water (Marine)) 3.3 mg/kg sediment dw (Sediment (Fresh Water)) 0.33 mg/kg sediment dw (Sediment (Marine)) 1000 mg/L (STP) 0.141mg/kg soil dw (Soil)
1-methoxypropan-2-ol	Inhalation 369 mg/m ³ (Systemic, Chronic) Inhalation 553.5 mg/m ³ (Systemic, Acute) Inhalation 553.5 mg/m ³ (Local, Acute) Dermal 183 mg/kg bw/day (Systemic, Chronic) Inhalation 43.9 mg/m ³ (Systemic, Chronic)* Dermal 78 mg/kg bw/day (Systemic, Chronic)* Oral 33mg/kg bw/day (Systemic, Chronic)*	10mg/L (Water (Fresh)) 100 mg/L (Water - Intermittent release) 1 mg/L (Water (Marine)) 100mg/L (STP) 52.3 mg/kg sediment dw (Sediment (Fresh Water)) 5.2 mg/kg sediment dw (Sediment (Marine)) 4.59 mg/kg soil dw (Soil)
Ethanol	Inhalation 380 mg/m ³ (Systemic, Chronic) Inhalation 1900 mg/m ³ (Local, Acute) Dermal 343 mg/kg bw/day (Systemic, Chronic) Inhalation 114 mg/m ³ (Systemic, Chronic)* Inhalation 950 mg/m ³ (Local, Acute)* Dermal 206 mg/kg bw/day (Systemic, Chronic)* Oral 87 mg/kg bw/day (Systemic, Chronic)*	0.96 mg/L (Water (Fresh)) 2.75 mg/L (Water - Intermittent release) 0.79 mg/L (Water (Marine)) 3.6 mg/kg sediment dw (Sediment (Fresh Water)) 0.63 mg/kg soil dw (Soil) 580 mg/L (STP) 380 - 720 mg/kg food(Secondary poisoning)
C.I.Acid Blue 9	Inhalation 88.3mg/m ³ (Systemic, Chronic) Dermal 17.67 mg/kg bw/day (Systemic, Chronic) Dermal 6.31 mg/kg bw/day (Systemic, Chronic)* Inhalation 19 mg/m ³ (Systemic, Chronic)* Oral 6.31mg/kg bw/day (Systemic, Chronic)*	0.1 mg/L (Water (Fresh)) 1 mg/L (Water - Intermittent release) 0.01 mg/L (Water (Marine)) 0.1 mg/L (Marine Water - Intermittent release) 0.363 mg/kg sediment dw (Sediment (Fresh Water)) 0.0363 mg/kg sediment dw (Sediment (Marine)) 1mg/kg soil dw (Soil) 10 mg/L (STP)

* Values for General Population

8.1.1 Occupational Exposure Limits (OEL)

➤ Ingredient data

Ingredient	Source	TWA	STEL	Peak
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Propane-1,2-diol particulates	WELs(UK)	10 mg/m ³	474mg/m ³	Not Available
Propane-1,2-diol total vapour and particulates	WELs(UK)	474 mg/m ³	Not Available	Not Available
Glycerol, mist	AGS (Germany)	200 mg/m ³ ¹	400mg/m ³ ¹ ²	Not Available
	DFG(Germany)	200 mg/m ³ ¹	400mg/m ³ ¹ ²	Not Available
	MAK(Germany)	200I mg/m ³	Not Available	I(2)
	VLEP (France)	10 mg/m ³	Not Available	Not Available
	WELs(UK)	10 mg/m ³	Not Available	Not Available
1-methoxypropan-2-ol	EU	375 mg/m ³ 100ppm	568mg/m ³ 150ppm ³	Not Available
	AGS (Germany)	370 mg/m ³ 100ppm	740mg/m ³ 200ppm ²	Not Available
	DFG(Germany)	370 mg/m ³ 100ppm	740mg/m ³ 200ppm ²	Not Available
	MAK(Germany)	370 mg/m ³ 100ppm	Not Available	I(2)
	VLEP (France)	50 mg/m ³ 180ppm	375mg/m ³ 100ppm ⁴	Not Available
	WELs(UK)	375 mg/m ³ 100ppm	560mg/m ³ 150ppm	Not Available
Ethanol	WELs(UK)	1920 mg/m ³ 1000ppm	400mg/m ³	Not Available
	VLEP (France)	1900 mg/m ³ 1000ppm	9500mg/m ³ 5000ppm	Not Available
	AGS (Germany)	380 mg/m ³ 200ppm	1520mg/m ³ 800ppm ¹	Not Available
	DFG(Germany)	380 mg/m ³ 200ppm	1520mg/m ³ 800ppm ¹	Not Available
	MAK(Germany)	380 mg/m ³ 200ppm	Not Available	II(4)

Remarks: 1..Inhalable fraction 2.15 minutes average value 3.15 minutes average value Bold-type: Indicative Occupational Exposure Limit Value (IOELV) 4.Restrictive statutory limit values Skin 15 minutes average value







Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Propane-1,2-diol	30mg/m ³	1300mg/m ³	7900mg/m ³
Ethanol	1800Eppm	3300E*ppm	15000*ppm
Glycerol	45mg/m ³	180mg/m ³	1100mg/m ³
1-methoxypropan-2-ol	100ppm	160ppm	660ppm
C.I.Acid Blue 9	30mg/m ³	330mg/m ³	2000mg/m ³

8.2 Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

8.3 Personal protection equipment

General requirement	     
Eye protection	Tightly fitting safety goggles (approved by EN166(EU) or NIOSH(US).
Hand protection	Wear protective gloves(such as butyl rubber, passing the tests according to EN 374(EU),US F739 or AS/NZS 2161.1 standard.
Respiratory protection	If exposure limits are exceeded or if irritation or other symptoms are experienced, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges.
Skin and body protection	Wear fire/flamm resistant/retardant clothing and antistatic boots.
Other protection	No special equipment needed when handling small quantities.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical propertie

Appearance	Coloured	Viscosity	Dynamic	Not Available
Physical state	Liquid		Kinematic:	Not Available
Odour	Odourless	Vapour density (Air = 1)		Not Available
Odour threshold	Not Available	Density/Relative density		Not Available
pH (as supplied)	Not Available	Decomposition temperature		Not Available
Melting point/freezing point(°C)	Not Available	Particle Size		Not Available
Flash point(Closed cup, °C)	23-24 °C	Vapour pressure (kPa)		Not Available
Flammability	Not Available	Relative vapor density		Not Available
Evaporation rate	Not Available	Partition coefficient n-octanol / water		Not Available
Upper Explosive Limit (%)	Not Available	Auto-ignition temperature(°C)		Not Available
Lower Explosive Limit (%)	Not Available	Explosive properties		Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
Self-igniting	Not Available	Oxidising properties		Not Available
Taste	Not Available	Surface Tension (dyn/cm or mN/m)		Not Available
Volatile Component (%vol)	Not Available	Gas group		Not Available
pH as a solution (1%)	Not Available	VOC g/L		Not Available

9.2 Other information

No further relevant information available

SECTION 10 Stability and reactivity

10.1 Stability and reactivity

Reactivity	No further relevant information available.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	No dangerous reactions known.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	Oxidants, alkali metals, alkaline earth metals and aluminum. Alkali, sodium, calcium, and other active metal, halogen, metaloxide, nonmetal oxide, acyl halide and metal phosphide.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 Toxicological information

11.1 Information on toxicological effects

Inhaled	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).</p> <p>Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Animal testing shows that the most common signs of inhalation overdose is inco-ordination and drowsiness.</p> <p>Aliphatic alcohols with more than 3-carbons cause headache, dizziness, drowsiness, muscle weakness and delirium, central depression, coma, seizures and behavioural changes. Secondary respiratory depression and failure, as well as low blood pressure and irregular heart rhythms, may follow.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p>
Ingestion	<p>Overexposure to non-ring alcohols causes nervous system symptoms. These include headache, muscle weakness and inco-ordination, giddiness, confusion, delirium and coma.</p> <p>Ingestion of ethanol (ethyl alcohol, 'alcohol') may produce nausea, vomiting, bleeding from the digestive tract, abdominal pain, and diarrhoea. The material has not been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.</p>
Skin Contact	<p>The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.</p>

Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents.

Permanent Marker Ink	TOXICITY	IRRITATION
	Not Available	Not Available
Propane-1,2-diol	TOXICITY	IRRITATION
	Oral (rat) LD50:22000 mg/kg ^[1] Inhalation(rat) LC50: 44.9 mg/L4h ^[1] Dermal ((rabbit) LD50:> 2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating)(Draize) Skin: no adverse effect observed (not irritating)(Draize)
Ethanol	TOXICITY	IRRITATION
	Inhalation(rat) LC50: > 82.1-92.6 mg/L6h ^[1] Inhalation(rat) LC50: > 115.9-133.8 mg/L4h ^[1] Inhalation(mouse) LC50: > 60000ppm/1h ^[1] Oral (mouse) LD50:> 8300 mg/kg ^[1]	Skin (rabbit):non-irritating(Draize) Eye (rabbit): slight irritation (50% concentration) (Draize)
Polymerized Rosin	TOXICITY	IRRITATION
	Oral (rat) LD50:> 2000 mg/kg ^[1] Dermal (rat) LD50: > 2000 mg/kg ^[1]	Skin (rabbit):non-irritating(Draize) Eye (rabbit):non-irritating (Draize)
Glycerol	TOXICITY	IRRITATION
	Oral (rat) LD50:> 11500 mg/kg ^[1] Inhalation(rat) LC50: > 5.85mg/l 4h ^[1] Dermal (guinea pig) LD50: 45 ml/kg	Skin (rabbit):non-irritating(Draize) Eye (rabbit):non-irritating (Draize)
1-methoxypropan-2-ol	TOXICITY	IRRITATION
	Oral(rat)LD50:> 4016mg/kg ^[1] Inhalation(rat) LC50: 6000-7000mg/l 6h ^[1] Dermal (rat) LD50: >2000 mg/kg ^[1] Dermal (rabbit) LD50: 13000 mg/kg ^[2]	Skin (rabbit):non-irritating(Draize) Eye (rabbit):non-irritating (Draize)
C.I.Acid Blue 9	TOXICITY	IRRITATION
	Oral (rat) LD50: >1900 mg/kg ^[1]	Eye: no adverse effect observed (not irritating)(Draize) Skin: no adverse effect observed (not irritating)(Draize)

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS.
Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

11.2 Carcinogenicity

Component	Cas No.	IARC	NTP
Polymerized Rosin	65997-05-9	Not Listed	Not Listed
Ethanol	64-17-5	category 1	Not Listed
Propane-1,2-diol	57-55-6	Not Listed	Not Listed
Glycerol	56-81-5	Not Listed	Not Listed
1-methoxypropan-2-ol	107-98-2	Not Listed	Not Listed
C.I.Acid Blue 9	2650-18-2	Not Listed	Not Listed
C.I. Solvent Yellow 79	12237-31-9	Not Listed	Not Listed
Solvent Red 122	12227-55-3	Not Listed	Not Listed
Solvent Blue 70	12237-24-0	Not Listed	Not Listed

11.2.1 Endocrine Disruption Properties

Not Available

11.3 Primary irritant effect

Carcinogenicity	Based on available data, the classification criteria are not met.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.

Skin sensitization	Based on available data, the classification criteria are not met.
Respiratory sensitization	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

SECTION 12 Ecological information

12.1 Toxicity

Permanent Marker Ink	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
Propane-1,2-diol	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	168h	Crustacea	13020mg/l	2
	LC50	96h	Fish	40613mg/l	2
	EC50	96h	Algae or other aquatic plants	19000mg/l	2
	EC50	48h	Crustacea	18340mg/l	2
Ethanol	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	240h	Crustacea	9.6mg/l	2
	LC50	96h	Fish	11200mg/l	2
	LC50	48h	Crustacea	5012mg/l	2
	EC50	72h	Algae or other aquatic plants	275mg/l	2
Polymerized Rosin	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	48h	Crustacea	0.625mg/l	2
	LC50	96h	Fish	1.7-5.4mg/l	2
	LC50	48h	Crustacea	1.6mg/l	2
	EC50	72h	Algae or other aquatic plants	16.6-39.6mg/l	1
Glycerol	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	885mg/l	1
	EC50	24h	Crustacea	10000mg/l	2
	EC50	72h	Algae or other aquatic plants	2.9mg/l	4
1-methoxypropan-2-ol	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	48h	Crustacea	2200mg/l	4
	LC50	96h	Fish	1000-20800mg/l	2
	LC50	48h	Crustacea	>=1000mg/l	1
	LC50	96h	Algae or other aquatic plants	>1000mg/l	1
C.I.Acid Blue 9	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC	504h	Crustacea	>10mg/l	2
	LC50	96h	Fish	>100mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	EC50	504h	aquatic plants other than algae	>200mg/l	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data				

12.2 Persistence and degradability

Component	Cas No.	Persistence (water/soil)	Persistence (air)
Ethanol	64-17-5	Low	Low
Propane-1,2-diol	57-55-6	Low	Low
Polymerized Rosin	65997-05-9	Low	Low

1-methoxypropan-2-ol	107-98-2	Low	Low
Glycerol	56-81-5	High	Low
C.I.Acid Blue 9	2650-18-2	Low	Low

12.3 Bioaccumulative potential

Component	Cas No.	Bioaccumulative potential	Remarks
Ethanol	64-17-5	Low	Log Kow=-0.35
Propane-1,2-diol	57-55-6	Low	Log Kow=-1.07
1-methoxypropan-2-ol	107-98-2	Low	Log Kow<1
Glycerol	56-81-5	Low	Log Kow=-1.76

12.4 Mobility in soil

Component	Cas No.	Mobility in soil	Soil Organic Carbon-Water Partitioning Coefficient (Koc)
Ethanol	64-17-5	High	Koc=1
Polymerized Rosin	65997-05-9	High	Koc=0.8759-5.37
Propane-1,2-diol	57-55-6	Low	Koc=2.9
Glycerol	56-81-5	High	Koc=1

12.5 Results of PBT and vPvB assessment

PBT	Not Available
vPvB	Not Available

12.6 Endocrine Disruption Properties

Not Available

12.7 Other adverse effects

No further relevant information available.

SECTION 13 Disposal considerations

13.1 Waste treatment methods

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. 1. Do not allow wash water from cleaning or process equipment to enter drains. 2. It may be necessary to collect all wash water for treatment before disposal. 3. Recycle wherever possible 4. Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no 5. suitable treatment or disposal facility can be identified.
Waste treatment options	Not Available
Sewage disposal options	Not Available

SECTION 14 Transport information


14.1 UN-Number

ADR/RID/ADN, IMDG, IATA	UN1170(Ethanol) UN1993(1-methoxypropan-2-ol)
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14.2 UN proper shipping name

ADR/RID/ADN, IMDG	Flammable liquid, n.o.s. (ethanol (alcohol),1-methoxypropan-2-ol)
IATA	Flammable liquid, n.o.s. (ethanol (alcohol),1-methoxypropan-2-ol)

14.3 Transport hazard class(es)

ADR/RID/ADN, IMDG, IATA	
Class	3 Flammable liquids.
Label	3

14.4 Packing group

ADR/RID/ADN, IMDG, IATA	III
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14.5 Environmental hazards

Not Applicable

14.6 Special precautions for user

Warning	Flammable liquids
Hazard identification number (Kemler code)	30
EMS Number:	F-E,S-E
Stowage Category	A

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not Applicable

14.8 Transport/Additional information

UN "Model Regulation"	UN 1170 Ethanol (ethyl alcohol) mixture, 3, II UN 1993 Flammable liquid, n.o.s. (1-methoxypropan-2-ol), 3, III
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SECTION 15 Regulatory information

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

MAK (German Maximum Workplace concentration)		
64-17-5	Ethanol	5
Directive 2012/18/EU		
Named dangerous substances -ANNEX I		None of the ingredients is listed
Other regulations, limitations and prohibitive regulations		
SVHC CandidateList of REACH Regulation Annex XIV Authorisation(06/10/2022)		None of the ingredients is listed.
REACH Regulation Annex XVII Restriction(11/09/2021)		Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.
REACH Regulation Annex XIV Authorization List(04/11/2022)		None of the ingredients is listed.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier

15.3 International chemical inventory

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECI	AICS
Propane-1,2-diol	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Ethanol	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Polymerized Rosin	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Glycerol	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
1-methoxypropan-2-ol	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
C.I.Acid Blue 9	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
C.I. Solvent Yellow 79	Not Listed	Not Listed	Not Listed	Listed	Listed	Listed	Listed	Listed
Solvent Red 122	Not Listed	Not Listed	Not Listed	Listed	Listed	Listed	Not Listed	Listed

Solvent Blue 70	Not Listed	Not Listed	Not Listed	Listed	Listed	Listed	Listed	Listed
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【EINECS】 European Inventory of Existing Commercial Chemical Substances

【TSCA】 United States Toxic Substances Control Act Inventory

【DSL】 Canadian Domestic Substances List

【IECSC】 China Inventory of Existing Chemical Substances

【NZIoC】 New Zealand Inventory of Chemicals

【PICCS】 Philippines Inventory of Chemicals and Chemical Substances

【KECI】 Existing and Evaluated Chemical Substances

【AICS】 Australia Inventory of Chemical Substances

SECTION 16 Other information

16.1 Information on revision

Creation Date	2022/07/27
Revision Date	2022/07/27
Reason for revision	—

16.2 Full text Risk and Hazard codes

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H336	May cause drowsiness or dizziness.

16.3 Abbreviations and acronyms

SCL: Specific Concentration limits

ATE: Acute Toxicity Estimates

Cas : Chemical Abstracts Service

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

NOEC: No Observed Effect Concentration

BCF: BioConcentration Factors

ELINCS: European List of Notified Chemical Substances

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

16.4 Disclaimer

This Safety Data Sheet (SDS) was prepared according to REACH Regulation. The data included was derived from international authoritative data base and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.