上海纳诺微新材料科技有限公司

Shanghai NNW New Materials Technology Co., Ltd.

Safety Data Sheet

Permanent Marker Ink

Version:1.1

Creation Date:2025/07/09

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Color: coloured

Country of Destination:EU

***Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878 and its subsequent amendments(EU) 2023/707&(EU) 2024/2865)**

INTERACTION Q-CONNECT

MANUFACTURER

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

1.1 Product identifier

Product Name	*Q-CONNECT Permanent Marker Ink (KF11710-KF11709-KF11708-KF11711-KF11712-KF03775-KF02300-KF02301-KF02302-KF02304-KF02305-KF02303-KF11167-KF26105-KF26106-KF26107-KF26108-KF01774-KF26089-KF01773-KF26043-KF26044-KF26045-KF26046-KF26047-KF26088-KF26042)*
Synonyms	—
CAS NO.	—
EC NO.	—
UFI code	*Black(76KE-MKVS-ATKX-TMJH) Red(49KE-4KK5-NTKE-GY4N) Blue(1DKE-NK8J-XTKX-49QS) Green(4FKE-4KXY-8TKE-TN9W)*

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 NNWNew Materials Technology Co., Ltd.*
Address of the company	*ROOM 402, Buildiing17, 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*

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008	 ***GHS02*** *H226 Flammable liquid and vapour; Category 3*

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008	*The product is classified and labelled according to the CLP regulation.*

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Hazardpictogram(s)	 **GHS02**
Signal word	**Warning!**
Hazard-determining components of labelling	Not Applicable
Hazard statements	H226 Flammable liquid and vapour.

2.3 Precautionary statements

Precautionary statement(s) Prevention

P210	Keep awayfrom heat, hot surfaces, sparks, openflames 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.
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement(s) Response

P303+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P370+P378	In case of fire: Use ... to extinguish.

Precautionary statement(s) Storage

P405	Store locked up.
P403+P235	Store in a well-ventilated place. Keep cool.

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.4 Other hazard

None of the ingredients (≥0.1%) is identified as having endocrine disrupting properties according to Regulation (EU) 2017/2100.

SECTION 3 Composition/information on ingredients

3.1 Mixtures

Description: Mixture of substances listed.

1.CAS No 2.EC/list 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	**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. Liqiud Category 3; H226 STOTSE Category 3; H336	Not Applicable	Not Applicable

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1.64-17-5 2.200-578-6 3.603-002-00-5 4.Not Available	15.0-17.0	**Ethanol**	Flam. Liqiud Category 2; H225	Not Applicable	Not Applicable
Additional ingredients on each color					
Black/Grey (202504007)					
1.2650-18-2 2.220-168-0 3.Not Available 4.Not Available	2.0-3.0	**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	**Solvent Yellow 79**	Not Classified	Not Applicable	Not Applicable
1.12239-74-6 2.602-765-1 3.Not Available 4.Not Available	2.0-3.0	**Solvent Red 125**	Not Classified	Not Applicable	Not Applicable
Light red/Red/Dark red (202504008)					
1.12239-74-6 2.602-765-1 3.Not Available 4.Not Available	2.0-3.0	**Solvent Red 125**	Not Classified	Not Applicable	Not Applicable
Light blue/Sky blue/Blue/Dark blue (202504009)					
1.2650-18-2 2.220-168-0 3.Not Available 4.Not Available	8.0-10.0	**Acid Blue 9**	Not Classified	Not Applicable	Not Applicable
Light green/Green/Dark green (202504010)					
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	**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 flushingfor several additional minutes. Ifeffects occur, consult a physician, preferably an ophthalmologist.
Skin contact	Take offcontaminated clothing and shoes immediately. Wash offwith 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.

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 hepaticfunction tests and urinalysis examination. [ILO Encyclopaedia]
For acute or short term repeatedexposures to ethanol	
1	Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention ofaspiration, replacement of fluid and correction ofnutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C andK).
2	Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.
3	Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs ofimmediate importance (glucose, thiamine).
4	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.
5	Fructose administration is contra-indicated due to side effects.
Treat symptomatically for 1-Method-2-Propanol intoxication	

1	**Immediate first aid:** Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention.
2	**Basic treatment:** Establish a patent airway (oropharyngeal or nasopharyngeal airway, if needed). Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Monitor for shock and treat if necessary. Anticipate seizures and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with 0.9% saline (NS) during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 mL/kg up to 200 mL of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool.
3	**Advanced treatment:** Consider orotracheal or nasotracheal intubation for airway control in the patient who is unconscious, has severe pulmonary edema, or is in severe respiratory distress. Positive-pressure ventilation techniques with a bag-valve-mask device may be beneficial. Consider drug therapy for pulmonary edema. Monitor cardiac rhythm and treat arrhythmias if necessary. Start IV administration of D5W/SRP: "To keep open", minimal flow rate/. Use 0. 9% saline (NS) lactated Ringer's (LR) if signs of hypovolemia are present. For hypotension with signs of hypovolemia, administer fluid cautiously. Consider vasopressors if patient is hypotensive with a normal fluid volume. Watch for signs of fluid overload. Treat seizures with diazepam or lorazepam. Use proparacaine hydrochloride to assist eye irrigation.
4	**Basic treatment:** Establish a patent airway (oropharyngeal or nasopharyngeal airway, if needed). Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary. Monitor for shock and treat if necessary. Anticipate seizures and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with 0.9% saline (NS) during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 mL/kg up to 200 mL of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool.

SECTION 5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Unsuitable extinguishing media	Water with full jet

5.2 Special hazards arising from the substrate or mixture

May form irritant vapor in air under fire.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus (MS HA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.
4	**Hazardous Combustion Products:** 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.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

1	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
2	Dispose contaminated material as waste according to item 13.

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3	Ensure adequate ventilation.

6.4 Reference to other sections

1	See section 7for information on safe handing.
2	See section 8for information on personal protection equipment.
3	See section 13for disposal information.

SECTION 7 Handling and storage

7.1 Precautions for handling

Protective measure

1	Ensure good ventilation/exhaustion at the workplace.
2	Keep receptacles tightly sealed.
3	Keep away from heat and direct sunlight.
4	Prevent formation of aerosols.
5	Avoid contact with skin and eyes.

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

Requirements to be met by storerooms	Keep containers tightly closed . Keep containers in a dry,cool and well-ventilated place. Keep away from heat/sparks/open flames/hot surfaces. Store away from incompatible materials and food stuff containers.
Storage incompatibility	**Ethanol:** Are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents; Reacts, possibly violently, with alkaline metals and alkaline earth metals to produce hydrogen; React with strong acids, strong caustics, aliphatic amines, isocyanates, acetaldehyde, benzoyl peroxide, chromic acid, chromium oxide,dialkylzincs; Dichlorine oxide, ethylene oxide, hypochlorous acid, isopropyl chlorocarbonate, lithium tetrahydroaluminate, nitrogen dioxide, pentafluoroguanidine, phosphorus halides, phosphorus pentasulfide, tangerine oil, triethylaluminium, triisobutylaluminium; Should not be heated above 49 deg. C. when in contact with aluminium equipment; Toxic gases are formed by mixing azo and azido compounds with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, Halogenated;organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidising or reducing agents; Flammable gases are formed by mixing azo and azido compounds with alkali metals; Explosive combination can occur with strong oxidising agents, metal salts, peroxides, and sulfides.

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/m³ (Local, Chronic) Inhalation 168 mg/m³ (Systemic, Chronic) Inhalation 10 mg/m³ (Local, Chronic)* Inhalation 50 mg/m³ (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)

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1-methoxypropan-2-ol	Inhalation 369 mg/m³ (Systemic, Chronic) Inhalation 553.5 mg/m³ (Systemic, Acute) Inhalation 553.5 mg/m³ (Local, Acute) Dermal 183 mg/kg bw/day (Systemic, Chronic) Inhalation 43.9 mg/m³ (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)
Glycerol	Inhalation 220 mg/m³ (Local, Chronic) Inhalation 132 mg/m³ (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)
Ethanol	Inhalation 380 mg/m³(Systemic, Chronic) Inhalation 1900 mg/m³ (Local, Acute) Dermal 343 mg/kg bw/day (Systemic, Chronic) Inhalation 114 mg/m³(Systemic, Chronic)* Inhalation 950 mg/m³ (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/kgfood(Secondary poisoning)
Acid Blue 9	Inhalation 88.3mg/m³(Systemic, Chronic) Dermal 17.67 mg/kg bw/day (Systemic, Chronic) Dermal 6. 31 mg/kg bw/day (Systemic, Chronic)* Inhalation 19 mg/m³(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)

* Valuesfor General Population

8.1.1 Occupational Exposure Limits (OEL)

Ingredient data

Ingredient	Country	Limit value - Eight hours	Limit value - Short term
Propane-1,2-diol (particulates)	Ireland	10 mg/m³	Not data available
	Latvia	7 mg/m³	Not data available
	Poland	100 mg/m³	Not data available
	WELs(UK)	10 mg/m³	Not data available
Propane-1,2-diol (total vapour and particulates)	Ireland	150ppm 474 mg/m³	Not data available
	Norway	25ppm 79 mg/m³	Not data available
	WELs(UK)	150ppm 474 mg/m³	Not data available
Ethanol	Belgium	1000ppm 1907mg/m³	Not data available
	Austria	1000ppm 1900mg/m³	2000ppm 3800mg/m³
	Denmark	1000ppm 1900mg/m³	2000ppm 3800mg/m³
	Finland	1000ppm 1900mg/m³	1300ppm 2500mg/m³ [2]
	MAK(Germany)	0.3R mg/m³	Not data available
	VLEP (France)	1000ppm 1900mg/m³	5000ppm 9500mg/m³
	AGS(Germany)	200ppm 380mg/m³	800ppm 1520mg/m³[1]
	DFG(Germany)	200ppm 380mg/m³	800ppm 1520mg/m³ [1]
	Hungary	1900mg/m³	3800mg/m³ [2]
	Ireland	Not data available	1000ppm (15 minutes reference period)
	Latvia	1000 mg/m³	Not data available
	Norway	500ppm 950mg/m³	Not data available
	Poland	1900mg/m³	Not data available
	Romania	1000ppm 1900mg/m³	5000ppm 9500mg/m³ [1]
	Spain	Not data available	1000ppm 1910mg/m³
	Sweden	500ppm 1000mg/m³	1000ppm 1910mg/m³[1]
	Switzerland	500ppm 960mg/m³	1000ppm 1920mg/m³

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	The Netherlands	260mg/m³(Skin)	1900mg/m³ (Skin)[1]
	WELs(UK)	1000ppm 1920mg/m³	Not data available
1-methoxypropan-2-ol	Austria	100ppm 369mg/m³	150ppm 553mg/m³
	Belgium	50ppm 184mg/m³	100ppm 369mg/m³ [1]
	Denmark	50ppm 185mg/m³ (skin)	100ppm 370mg/m³ (skin) [2]
	EU	100ppm 375mg/m³	150ppm 568mg/m³ [2]
	Finland	100ppm 370mg/m³	150ppm 560mg/m³ [2]
	VLEP (France)	50ppm 188mg/m³	100ppm 375mg/m³ [2]
	AGS(Germany)	100ppm 370mg/m³	300ppm 740mg/m³ [2]
	DFG(Germany)	100ppm 370mg/m³	300ppm 740mg/m³ [2]
	Hungary	375mg/m³ (Skin)[2]	568mg/m³(Skin)[2]
	Ireland	100ppm 375mg/m³	150ppm 568mg/m³ (15 minutes reference period)
	Italy	100ppm 375mg/m³ (Skin)[2]	150ppm 568mg/m³ (Skin)[2]
	Latvia	100ppm 375mg/m³ [2]	150ppm 568mg/m³ [2]
	Norway	50ppm 180mg/m³ (Skin)	Not data available
	Poland	180mg/m³ (Skin)	360mg/m³ (Skin)[2]
	Romania	100ppm 375mg/m³	150ppm 568mg/m³
	Spain	100ppm 375mg/m³	150ppm 568mg/m³
	Sweden	100ppm 375mg/m³ [2]	150ppm 568mg/m³ [2]
	Switzerland	100ppm 360mg/m³	400ppm 1000mg/m³
	The Netherlands	375mg/m³ (Skin)[2]	563mg/m³ (Skin)[2]
	WELs(UK)	100ppm 375mg/m³	150ppm 560mg/m³
Glycerol, mist	Belgium	10mg/m³	Not data available
	VLEP (France)	10mg/m³	Not data available
	WELs(UK)	10mg/m³	Not data available
	Finland	20mg/m³	Not data available
	AGS(Germany)	200mg/m³[1]	400mg/m³[1][2]
	DFG(Germany)	200mg/m³[1]	400mg/m³[1][2]
	Ireland	10mg/m³	Not data available
	Poland	10mg/m³	Not data available
	Spain	10mg/m³	Not data available
	Switzerland	50mg/m³inhalable aerosol	100mg/m³inhalable aerosol

Remarks: 1. Inhalable fraction 2.15 minutes average value

- **Emergency Limits**

Ingredient	TEEL-1	TEEL-2	TEEL-3
Propane-1,2-diol	30mg/m³	1300mg/m³	7900mg/m³
Ethanol	1800Eppm	3300E*ppm	15000*ppm
Glycerol	45mg/m³	180mg/m³	1100mg/m³
1-methoxypropan-2-ol	100ppm	160ppm	660ppm
Acid Blue 9	30mg/m³	330mg/m³	2000mg/m³

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.

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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), USF739 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/flame 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 properties

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

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	See section 7.2
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 Toxicological information

Continued...

11. 1 Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. 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. Animal testing shows that the most common signs of inhalation overdose is inco-ordination and drowsiness. 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. 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.
Skin Contact	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.
Ingestion	Overexposure to non-ring alcohols causes nervous system symptoms. These include headache, muscle weakness and inco-ordination, giddiness, confusion, delirium and coma. 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.
Eye	Direct contact of the eye with ethanol (alcohol) may cause an immediate stinging and burning sensation, with reflex closure of the lid, and a temporary, tearing injury to the cornea together with redness of the conjunctiva. Discomfort may last 2 days but usually the injury heals without treatment.
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 data available	Not data available
Propane-1,2-diol	**TOXICITY**	**IRRITATION**
	Oral (rat) LD50:22000 mg/kg[1] Inhalation(rat) LC50: 44.9 mg/l 4h[1] Dermal (rabbit) LD50:> 2000 mg/kg[1]	Eye: no adverse effect observed (not irritating)(Draize) Skin: no adverse effect observed (not irritating)(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)
Ethanol	**TOXICITY**	**IRRITATION**
	Inhalation(rat) LC50: > 82.1-92.6 mg/l 6h[1] Inhalation(rat) LC50: > 115.9-133.8 mg/l 4h[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)
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[1]	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)
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.	

11.2 Carcinogenicity

Component	Cas No.	IARC
Polymerized Rosin	65997-05-9	Not Listed
Ethanol	64-17-5	category 1
Propane-1,2-diol	57-55-6	Not Listed
Glycerol	56-81-5	Not Listed
1-methoxypropan-2-ol	107-98-2	Not Listed
Acid Blue 9	2650-18-2	Not Listed
Solvent Yellow 79	12237-31-9	Not Listed
Solvent Red 125	12239-74-6	Not Listed

Continued...

11.2. 1 Endocrine Disruption Properties

None of the ingredients (≥0. 1%) is considered to have endocrine-disrupting properties with respect to humans, as none of them meet the criteria set out in section A of Regulation (EU) No 2017/2100.

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**
	Not data available	Not data available	Not data available	Not data available
1-methoxypropan-2-ol	**Endpoint**	**Test Duration (hr)**	**Species**	Value
	LC50	96h	Fish	1-20.8 g/l
	LC0	96h	Fish	1-4.64 g/l
	NOEC	96h	Fish	1 -4.64 g/l
	LC50	48h	Aquatic invertebrates	21.1-25.9 g/l
	LC0	48h	Aquatic invertebrates	1.412 g/l
	EC50	168h	Aquatic algae and cyanobacteria	1 g/l
Ethanol	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**
	LC50	96h	Fish	14.2-15.4 g/l
	NOEC	120h	Fish	250-1000 mg/l
	NOEC	240h	Aquatic invertebrates	2-9.6 mg/l
	EC50	240h	Aquatic invertebrates	1806 mg/l
	EC50	216h	Aquatic invertebrates	454 mg/l
	EC50	48h	Aquatic invertebrates	10 g/l
	EC50	168h	Aquatic plants other than algae	4.432-5.967 g/l
	NOEC	72h	Aquatic plants other than algae	11.5 mg/l
	EC50	72h	Aquatic algae and cyanobacteria	275 mg/l
	EC50	96h	Aquatic algae and cyanobacteria	675 - 22 000 mg/l
Polymerized Rosin	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**
	LC50	96h	Fish	1.7-5.4mg/l
	LC0	96h	Fish	2.5 mg/l
	NOEC	96h	Fish	625 µg/l
	LC50	48h	Aquatic invertebrates	1.6mg/l
	NOEC	48h	Aquatic invertebrates	625 µg/l
	NOELR	48h	Aquatic invertebrates	10-750mg/l

Continued...

	EC50	72h	Aquatic algae and cyanobacteria	16.6-39.6 mg/l
	NOEC	72h	Aquatic algae and cyanobacteria	6.25mg/l
	NOELR	72h	Aquatic algae and cyanobacteria	100-1000mg/l
Glycerol	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**
	LC50	96h	Fish	54g/l
	EC50	24h	Aquatic invertebrates	10g/l
Acid Blue 9	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**
	LC50	96h	Fish	132 - 460 mg/l
	EC50	48h	Aquatic invertebrates	100 mg/l
	NOEC	504h	Aquatic invertebrates	10 mg/l
	EC50	168h	Aquatic plants other than algae	200 mg/l
Propane-1,2-diol	**Endpoint**	**Test Duration (hr)**	**Species**	**Value**
	NOEC	168h	Aquatic invertebrates	13020 mg/l
	LC50	96h	Fish	40613 mg/l
	LC50	48h	Fish	18340 mg/l
	EC50	96h	Aquatic algae and cyanobacteria	19000 mg/l
	EC50	48h	Aquatic invertebrates	18340 mg/l

12.2 Persistence and degradability

Component	Cas No.	Persistence (water/soil)
Ethanol	64-17-5	Readily biodegradable in water
Propane-1,2-diol	57-55-6	Readily biodegradable in water
Polymerized Rosin	65997-05-9	Readily biodegradable in water
1-methoxypropan-2-ol	107-98-2	Readily biodegradable in water
Glycerol	56-81-5	Readily biodegradable in water
Acid Blue 9	2650-18-2	Not ready biodegradable

12.3 Bioaccumulative potential

Component	Cas No.	Bioaccumulative potential	Remarks
Ethanol	64-17-5	No potentialfor bioaccumulation	Log Kow=-0.35
Propane-1,2-diol	57-55-6	No potentialfor bioaccumulation	Log Kow=-1.07
Polymerized Rosin	65997-05-9	Certain bioaccumulation potential	BCF=140-330
Glycerol	56-81-5	Potentialfor a low bioaccumulation	Log Kow<=3
Acid Blue 9	2650-18-2	No potentialfor bioaccumulation	Log Kow=-3
1-methoxypropan-2-ol	107-98-2	Potentialfor a low bioaccumulation	Log Kow=0.37

12.4 Mobility in soil

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

12.5 Results ofPBT and vPvB assessment

PBT	Not Available
vPvB	Not Available

Continued...

12. 6 Endocrine Disruption Properties

None of the ingredients (≥0. 1%) is considered to have endocrine-disrupting properties with respect to non-target organisms, as none of them meet the criteria set out in section B of Regulation (EU) No 2017/2100.

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), UN3092(1-methoxypropan-2-ol)

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

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 UN3092 Flammable liquid, n.o.s. (1-methoxypropan-2-ol), 3, III

Continued...

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 -ANNEXI	None of the ingredients is listed

Other regulations, limitations and prohibitive regulations	
SVHC Candidate List of REACH Regulation Annex XIV Authorisation	None of the ingredients is listed.
REACH Regulation Annex XVII Restriction	Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.
REACH Regulation Annex XIV Authorization List	None of the ingredients is listed.

15.2 Chemical safety assessment

A Chemical Safe Assessment has not been carried out.

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
Acid Blue 9	Listed	Listed	Listed	Listed	Listed	Listed	Listed	Listed
Solvent Yellow 79	Not Listed	Not Listed	Not Listed	Listed	Listed	Listed	Listed	Listed
Solvent Red 125	Listed	Not Listed	Not Listed	Listed	Listed	Listed	Not Listed	Listed

【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	2025/07/09
Revision Date	2025/07/09
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

Continued...

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*

LC0: *The maximum dose or concentration that does not cause animal death*

LD50: *Lethal dose, 50 percent*

PBT: *Persistent, Bioaccumulative and Toxic*

vPvB: *very Persistent and very Bioaccumulative*

16.4 Further information

The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, its amendment Regulation (EU) No 2020/878 and (EC) No 1272/2008 and (EU)2024/2865).

DISCLAIMER OF LIABILITY:

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.