



MK-10101

MK-10099

EU English (UK) Version 6 Page: 1/5

MATERIAL SAFETY DATA SHEET

Marsh
Ink
NP-Ink Blue

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : NP-Ink Blue
Synonyms : Product Code : 20151, 20155, 20710, 20717
Material uses : Industrial applications: Ink for use on nonporous substrates in a drop-on-demand printing process.
Emergency phone : Medical: CALL RMPDC, USA (303) 623-5716
Transporters: CHEMTREC, USA (800)-424-9300
Supplier : Martek Industries Ltd
Unit 12b, Ridings Park Ind. Estate
Eastern Way, Cannock, Staffs WS11 7FJ UK
Tel: +44(0)1543 502202 Fax: +44(0)1543-467726

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation : Preparation

Information on Hazardous Ingredients

CAS No.	Percent (%)	Chemical name	R-Phrases
1) 71-23-8 36, 67	1 - 3	Propan-1-ol	Xi R11, 41,
2) 64-17-5	80 - 90	Ethanol	R11
3) 67-63-0	3 - 7	Propan-2-ol	Xi R11, 36, 67

* Occupational Exposure Limit(s), if available, are listed in Section 8

3. HAZARDS IDENTIFICATION

Classification : Highly flammable
Risk phrases : R11- Highly flammable.
Safety phrases : None.

Effects and symptoms

Chemical name	Effects and symptoms
1) Propan-1-ol	May cause irritation of respiratory tract, coughing, shortness of breath. Irritating to skin. Absorbed through skin. Severely irritating to eyes. Inhalation and Ingestion : Can cause CNS depression. Can cause dizziness, lightheadedness, headache, nausea and blurred vision. May cause loss of consciousness/coma and death . Repeated or prolonged contact with irritants may cause dermatitis.
2) Ethanol	May cause irritation of respiratory tract, coughing, shortness of breath. Slightly irritating to the skin. Absorbed through skin. Moderately irritating to eyes. Inhalation and ingestion may cause drowsiness, dizziness, incoordination and other effects of intoxication. May cause loss of consciousness/coma and death . Medical conditions aggravated by overexposure: liver kidneys gastrointestinal tract respiratory system cardiovascular system and central nervous system .
3) Propan-2-ol	May cause irritation of respiratory tract, coughing, shortness of breath. Slightly irritating to the skin. Absorbed through skin. Moderately irritating to eyes. Ingestion : Exposure can cause nausea, headache and vomiting. Inhalation and Ingestion : Can cause CNS depression. Can cause dizziness, lightheadedness, headache, nausea and blurred vision. May cause loss of consciousness/coma and death . Repeated or prolonged contact with irritants may cause dermatitis.

Continued on Next Page

4. FIRST AID MEASURES

- Inhalation** : If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
- Ingestion** : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with soap and water. Get medical attention if irritation develops.
- Eye contact** : Check for and remove any contact lenses. In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Obtain medical attention.

5. FIRE-FIGHTING MEASURES

- Extinguishing media** : Flammable liquid, insoluble in water.
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
- Special fire-fighting procedures** : Fire fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.
- Hazardous thermal decomposition products** : These products are carbon oxides (CO, CO₂), halogenated compounds.
- Protection of fire-fighters** : Be sure to use an approved/certified respirator or equivalent.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Splash goggles. Full suit. Vapour respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
- Environmental precautions and cleanup methods** : Toxic flammable liquid, insoluble or very slightly soluble in water.
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with dry earth, sand or other noncombustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

7. HANDLING AND STORAGE

- Handling** : Keep locked up. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/vapour/spray. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis.
- Storage** : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
- Packaging materials** : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eyewash stations and safety showers are close to the workstation location.
- Hygiene measures** : Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Occupational Exposure Limits

Chemical name	Exposure limits
1) Propan-1-ol	1) Austria AUVA MAK (TWA) 8 hours 200 ppm 2) Belgium STEL 15 minutes 250 ppm (Skin) 3) Belgium TWA 8 hours 200 ppm (Skin) 4) Switzerland SUVA MAK-W (TWA) 8 hours 200 ppm (Skin) 5) Denmark DK-Arbejdstilsynet TWA 8 hours 200 ppm (Skin) 6) Finland Työterveyslaitos STEL 15 minutes 250 ppm (Skin) 7) Finland Työterveyslaitos TWA 8 hours 200 ppm (Skin) 8) France INRS VME (TWA) 8 hours 200 ppm 9) Netherlands Arbeidsinspectie MAC-TQA (TGG) 8 hours 200 ppm (Skin) 10) Norway N-Arbeidstilsynet TWA 8 hours 100 ppm (Skin, Sensitiser skin) 11) Sweden AFS KTV (STEL) 15 minutes 250 ppm 12) Sweden AFS NGV (TWA) 8 hours 150 ppm
2) Ethanol	1) Austria AUVA MAK 8 hours 1000 ppm 2) Belgium TWA 8 hours 1000 ppm 3) Switzerland SUVA STEL 15 minutes 1000 ppm

Continued on Next Page

- 4) Switzerland SUVA TWA 8 hours 500 ppm
 5) Germany BAUA MAK 8 hours 1000 ppm
 6) Germany BAUA TWA 8 hours 1000 ppm
 7) Spain VLA-ED 8 hours 1000 ppm
 8) Finland Työterveyslaitos STEL 15 minutes 1250 ppm
 9) Finland Työterveyslaitos TWA 8 hours 1000 ppm
 10) France INRS VLE (STEL) 15 minutes 5000 ppm
 11) France INRS VME (TWA) 8 hours 1000 ppm
 12) Ireland OEL (TWA) 8 hours 1000 ppm
 13) Italy ACGIH TWA 8 hours 1000 ppm
 14) Netherlands Arbeidsinspectie MAC TWA (TGG) 8 hours 500 ppm
 15) Norway N-Arbeidstilsynet TLV 8 hours 500 ppm
 16) Sweden AFS KTV 15 minutes 1000 ppm
 17) Sweden AFS NGV 8 hours 500 ppm
 18) European Union Recommended TWA 8 hours 1000 ppm
- 3) Propan-2-ol
- 1) Austria MAK (TWA) 8 hours 400 ppm
 2) Denmark DK-Arbejdstilsynet TWA 8 hours 200 ppm
 3) Belgium TWA 8 hours 400 ppm
 4) Belgium STEL 15 minutes 500 ppm
 5) France INRS VLE 8 hours 400 ppm
 6) Germany BAUA MAK (TWA) 8 hours 500 ppm
 7) Ireland TWA 8 hours 400 ppm (Skin)
 8) Ireland STEL 15 minutes 500 ppm (Skin)
 9) Italy TWA 8 hours 400 ppm
 10) Italy STEL 15 minutes 500 ppm
 11) Netherlands Arbeidsinspectie MAC-TGG (TWA) 8 hours 250 ppm (Skin)
 12) Norway N-Arbeidstilsynet TWA 8 hours 100 ppm
 13) Spain VLA-ED (TWA) 8 hours 400 ppm
 14) Spain VLA-EC 15 minutes 500 ppm
 15) Sweden AFS NGV (TWA) 8 hours 150 ppm
 16) Sweden AFS KTV (STEL) 15 minutes 250 ppm
 17) Switzerland SUVA MAK-W (TWA) 8 hours 200 ppm
 18) Switzerland SUVA KZG-W (STEL) 15 minutes 400 ppm

Personal Protective Equipment

- Respiratory system** : Vapour respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
- Skin and body** : Lab coat.
- Hands** : Gloves.
- Eyes** : Safety glasses.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state and appearance** : Liquid.
- Colour** : Blue.
- Odour** : Alcohol-like.
- Odour threshold** : The highest known value is 100 ppm. Weighted average: 95 ppm.
- Boiling point** : The lowest known value is 78 °C. Weighted average: 78 °C.
- Melting point** : May start to solidify at -88 °C. Weighted average: -112 °C.
- Specific gravity** : 0.82 (Water = 1)
- Vapour density** : The highest known value is 2.1. The lowest known value is 1.6. (Air = 1)
- Vapor pressure** : The highest known value is 44 mmHg at 20°C. Weighted average: 42 mmHg at 20°C.
- Evaporation rate (butyl acetate = 1)** : The highest known value is 1.7. Weighted average: 1.7.
- Solubility** : Easily soluble in methanol, acetone.
Soluble in diethyl ether.
Partially soluble in n-octanol.
Insoluble in cold water, hot water.
- Octanol/water partition coefficient** : The product is more soluble in oil.
- pH** : Not applicable.
- Flash point** : The lowest known value is 12 °C. Weighted average: 12 °C.
- Autoignition temperature** : The lowest known value is 371 °C. Weighted average: 398 °C.
- Flammable limits** : The lowest known value is 2.0%. The highest known value is 19.0%.
- Volatility (w/w)** : 92 %
- VOC Volatility (w/w)** : 92 %

10. STABILITY AND REACTIVITY

- Stability** : The product is stable.
- Conditions and materials to avoid** : Not available.
- Hazardous reactions** : Reactive with oxidizing agents, reducing agents, acids, alkalis.
Slightly reactive with metals.
- Hazardous decomposition products** : These products are carbon oxides (CO, CO₂), halogenated compounds.

11. TOXICOLOGICAL INFORMATION

- | <u>Chemical name</u> | <u>Toxicological Information</u> |
|----------------------|---|
| 1) Propan-1-ol | 1) LD50 Oral Rat: 1870 mg/kg
2) LD50 Oral Rabbit: 2825 mg/kg
3) LD50 Oral Mouse: 6800 mg/kg
4) LD50 Dermal Rabbit: 5040 mg/kg
5) LDLo Oral Mammal: 5000 mg/kg
6) LDLo Dermal Mammal: 5000 mg/kg
7) LCLo Inhalation vapour Rat: 4000 ppm 4 hours |
| 2) Ethanol | 1) LD50 Oral Rat: 7060 mg/kg
2) LD50 Oral Mouse: 3450 mg/kg
3) LD50 Oral Rabbit: 6300 mg/kg
4) LC50 Inhalation vapour Rat: 20000 ppm 10 hours
5) LCLo Inhalation vapour Dog: 5500 ppm hours
6) LCLo Inhalation vapour Guinea pig: 21900 ppm hours |
| 3) Propan-2-ol | 1) LD50 Oral Rat: 5045 mg/kg
2) LD50 Oral Rabbit: 6410 mg/kg
3) LD50 Oral Mouse: 3600 mg/kg
4) LD50 Dermal Rabbit: 12800 mg/kg |

12. ECOLOGICAL INFORMATION

- Persistence/degradability** : Not available.
- Ecotoxicity** : Not available.
- Germany water class (WGK)** : Wassergefährdungsklasse = 1


13. DISPOSAL CONSIDERATIONS

- Disposal methods** : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. TRANSPORT INFORMATION

- UN number** : UN1210
- Proper shipping name** : Printing Ink
- ADR/RID class** : 3
- ADR/RID item number** : Not available.
- Packing group** : II

15. REGULATORY INFORMATION

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- Risk phrases** : R11- Highly flammable.
- Safety phrases** : None.
- Other EU Regulations**
- Child protection** : Not applicable.
- Tactile warning of danger** : Not applicable.
- National Regulations**
- Not available.

16. OTHER INFORMATION

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Prepared by : John Dingess
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