

**Safety Data Sheet in accordance with Regulation (EU)
No.453/2010**

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1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Trade name: VJ-LSINK-BK220/440 (ID: INK-1501)

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

Material of Use: Industrial applications: Inkjet ink for drop-on-demand digital printing process.

1.3 SDS No. 121107 VJ-Ver.9.2 BK

1.4 Details of the supplier of the safety data sheet

Supplier: Mutoh Belgium nv

Address: Archimedesstraat 13, 8400 Oostende - Belgium

Phone: +32(0) 59 56 1400

e-mail: ibd@mutoh.co.jp

Emergency telephone number: +32(0) 59 56 1400 (Mon - Fri, 9:00-17:00, CET)

2. Hazards identification

2.1 Classification of the mixture

Classification according to Regulation (EC) No 1272/2008



Warning

Eye Irrit. 2 H319 Causes serious eye irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Irritant Xi: R36

R phrases: 36: Irritating to eyes.

Information concerning particular hazards for human and environment: Not applicable.

2.2 Label elements

Labeling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

Hazard pictograms



Signal word: Warning

Hazard statements:

H319 Causes serious eye irritation.

Precautionary statements:

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/ protective clothing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P 313: If eye irritation persists get medical advice/attention.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3. Composition/information on ingredients

Chemical characterization: Mixture
Ink Jet printing ink in organic solvents.

Ingredients	CAS-No.	EINECS	EU Pre-registration No.	Percent	TLV & Source (Units)	Classification	
						67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]
Dipropylene Glycol Monomethyl Ether	34590-94-8	252-104-2	17-2119449954-25-0000	1%–10%	ACGIH TLV 100 ppm (TWA), 150 ppm (STEL). OSHA PEL 100 ppm (TWA).	—	—
1-Ethyl-2-pyrrolidone	2687-91-4	220-250-6	17-2119941086-39-0000	1%–10%	No TLV established	Xn; R22, R36	Acute tox 4: H302 Eye Irrit. 2 H319
Propylene Carbonate	108-32-7	203-572-1	17-2119941099-32-0000	1%–20%	No TLV established	Xi; R36	Eye Irrit. 2 H319
2-Ethoxy Ethyl Ether	112-36-7	203-963-7	05-2117277356-35-0000	20%–40%	No TLV established	—	—
Diethylene Glycol Derivative	1002-67-1	213-690-5	17-2119449956-21-0000	20%–40%	No TLV established	—	—
Tetraethylene Glycol Dimethyl Ether	143-24-8	205-594-7	05-2117277367-32-0000	1%–10%	No TLV established	—	—

4. First aid measures

4.1 Description of first aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin contact: Wash off with soap and plenty of water. Consult a physician.
Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water-spray.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Use breathing apparatus with independent air supply.
Protective suit.

5.4 Further information

Use water spray to cool unopened containers

5.5 NFPA Ratings: Health: 1 Flammability: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. Handling and storage

7.1 Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

No data available

8. Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Components	OSHA: PEL	ACGIH TWA	ACGIH STEL
Dipropylene Glycol	600 mg/m ³ 100 ppm SKIN	100 ppm	150 ppm
Monomethyl Ether			
Components	OSHA: PEL	ACGIH TLV	ACGIH STEL
Carbon Black	3.5 mg/m ³	3.5 mg/m ³	—

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. Physical and chemical properties

1	Color	Black
2	Odor	Slight odor
3	Odor Threshold	No data available
4	Boiling Point/Boiling Range of Ink	approx. 176 °C or higher
5	Melting Point/Melting Range	No data available
6	Flash Point of Ink	71.5 °C
7	Evaporation Rate	No data available
8	Auto-Ignition Temperature	No data available
9	Decomposition Temperature	No data available
10	Flammability(solid, gas)	Not applicable
11	Upper/lower Flammability or Explosive Limits	Lower limits: 1.3 vol% Upper limits: 7.7 vol% (1-Ethyl-2-pyrrolidone) Lower limits: 1.8 vol% Upper limits: 14.3 vol% (Propylene Carbonate)
12	Explosive Properties	No data available
13	Vapour Pressure	No data available
14	Specific Gravity	0.977 ± 0.01(25°C)
15	Solubility	No data available
16	Water Solubility	Easily soluble (Diethylene glycol diethyl ether)
17	Partition Coefficient:n-octanol/water	No data available
18	Viscosity	4.0 ± 0.5 cps
19	pH	Not applicable
20	Oxidizing Properties	No data available
21	Vapor Density	Not applicable
22	VOCs	834 g/L
23	Other Information	No data available

The Physical and chemical data given in Section 9 are typical values for this product and are not intended to be product specifications.

10. Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

11.1 Information on toxicological effects

Routes of Overexposure: Eye, skin, inhalation, and oral ingestion

Acute Health Hazards: Overexposure of the eye surface to ink may be mildly irritating. Overexposure of ink contact with the skin may cause irritation and in some people, swelling and redness. Intentional inhalation to ink vapors may result in respiratory tract irritation. Intentional or accidental oral ingestion may cause an upset stomach.

Chronic Health Hazards: No information available

Mutagenicity: No information available

Carcinogenicity: The product contains Carbon black. IARC evaluated printing ink as a Group3 (Not classifiable as to carcinogenicity to humans).

Acute Toxicity Data:

Dipropylene Glycol Monomethyl Ether:

LD50/LC50: Oral, rat: LD50 = 5130 mg/kg; Dermal, rabbit: LD50 = 9500 mg/kg

1-Ethyl-2-pyrrolidone:

LD50: Oral, rat = 1.350 mg/kg

Remarks: Gastrointestinal:Other changes. Liver:Other changes. Kidney, Ureter, Bladder:Other changes.

Propylene Carbonate:

LD50 Oral, mouse = 20.700 mg/kg

LC50 Inhalation, rat > 5.000 mg/m3

LD50 Dermal, rabbit = 23,8 g/kg

2-Ethoxy Ethyl Ether:

LD50/LC50: Draize test, rabbit, eye: 50 mg Moderate; Oral, rat: LD50 = 4970 mg/kg; Skin, rabbit: LD50 = 6700 uL/kg.

Diethylene Glycol Derivative:

Oral LD50 >6,500mg/kg (Rats), Dermal LD50 >7,070mg/kg (Rabbit)

Tetraethylene Glycol Dimethyl Ether:

LD50/LC50: Draize test, rabbit, eye: 500 mg Mild; Oral, rat: LD50 = 5140 mg/kg

Inhalation:

Not available

Irritating:

1-Ethyl-2-pyrrolidone:

Eye irritating: rabbit - Moderate eye irritation

Propylene Carbonate:

Skin - rabbit - Skin irritation

Eyes - rabbit - Eye irritation

Diethylene Glycol Derivative:

Eye irritating: moderate irritant(P.I.I.=2.5 Draize)

Sensitization:

Not available

Mutagenicity:

Not available

The information shown in SECTION 3, Hazards identification, is based on toxicity profiles of similar materials or on the components present in this material.

12. Ecological information

12.1 Toxicity

Acquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

13. Disposal considerations

13.1 Waste treatment methods

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. Transport information

14.1 UN number	ADR/RID: —	IMDG: —	IATA: —
14.2 UN proper shipping name	ADR/RID: Not dangerous goods		
	IMDG: Not dangerous goods		
	IATA: Not dangerous goods		
14.3 Transport hazard class(es)	ADR/RID: —	IMDG: —	IATA: —
14.4 Packaging group	ADR/RID: —	IMDG: —	IATA: —
14.5 Environmental hazards	ADR/RID: no	IMDG Marine pollutant: no	IATA: no
14.6 Special precautions for user	No data available		

15. Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
 EU Regulation (EC) No. 1272/2008 (REACH)
 REACH Status: In compliance.
 Pre-registration status: All components are listed or exempted.
 Annex XIV - List of substances subject to authorization
 Substances of very high concern
 None of the components are listed.
 Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
 Not applicable.
- 15.2 Chemical Safety Assessment
 No data available
- 15.3 Other information
US Regulation:
 TSCA Section 4(a) Final Test Rules Regulated: Not regulated.
 TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated.
 TSCA Section 8(a) Inventory Update Rule: All components on TSCA INVENTORY
 TSCA Section 8(d) Health and Safety Study Reporting: Not regulated.
 TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated.
 California Proposition 65: Not regulated.

16. Other information

The data in this Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
 This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.