

# MATERIAL SAFETY DATA SHEET

This product is not regulated as dangerous goods. UN No: Not applicable

## 1. Product and Company Identification

**Product name** Cyan cartridge  
**Version #** 01  
**Revision date** 05-27-2010  
**Product use** Inkjet printing.  
**Manufacturer/Supplier** Memjet Labels, Inc.  
15920 Bernardo Center Drive  
San Diego, CA 92127  
US  
Telephone 1-858-798-3000

## 2. Hazards Identification

**Physical state** Liquid.  
**Emergency overview** WARNING  
Harmful if swallowed. Causes skin, eye and respiratory tract irritation.  
**OSHA regulatory status** This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).  
**Potential health effects**  
**Routes of exposure** Eye contact. Skin contact. Inhalation. Ingestion.  
**Eyes** Causes eye irritation. May cause redness and pain.  
**Skin** Causes skin irritation.  
**Inhalation** Causes respiratory tract irritation. Vapor may affect central nervous system and cause headache, discomfort, vomiting or intoxication.  
**Ingestion** Harmful if swallowed.  
**Target organs** Eyes. Respiratory system. Skin. Kidneys. Central nervous system.  
**Chronic effects** May cause central nervous system effects. May damage the unborn child if very large amounts are swallowed. May cause damage to the kidneys.  
**Potential environmental effects** Harmful to aquatic organisms.

## 3. Composition / Information on Ingredients

Components	CAS #	Percent
Water	7732-18-5	60 - 80
Ethylene glycol	107-21-1	2.5 - 10
Organic compound	Proprietary	2.5 - 10
Organic compound 2	Proprietary	2.5 - 10
Proprietary cyan dye	N/A	2.5 - 10

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First Aid Measures

### First aid procedures

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation persists after washing.  
**Skin contact** Take off immediately all contaminated clothing. Wash off immediately with soap and plenty of water. Get medical attention if irritation persists after washing.

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Get medical attention if symptoms persist.
<b>Ingestion</b>	Rinse mouth thoroughly. Only induce vomiting at the instruction of medical personnel. If vomiting occurs, keep head low so that stomach content does not get into the lungs. Get medical attention if any discomfort continues.
<b>Notes to physician</b>	Treat symptomatically.
<b>General advice</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

## 5. Fire Fighting Measures

### Extinguishing media

**Suitable extinguishing media** Water. Water spray. Foam. Dry powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** Do not use a solid water stream as it may scatter and spread fire.

### Protection of firefighters

**Specific hazards arising from the chemical** By heating and fire, harmful vapors/gases may be formed.

**Protective equipment and precautions for firefighters** Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed or cooled with water.

## 6. Accidental Release Measures

**Personal precautions** Keep away from sources of ignition - No smoking. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate protective equipment and clothing during clean-up. Keep unnecessary personnel away. Keep upwind.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**Methods for containment** Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up** Absorb spillage with non-combustible, absorbent material. For waste disposal, see Section 13 of the MSDS.

**Other information** Clean up in accordance with all applicable regulations.

## 7. Handling and Storage

**Handling** Use only in well-ventilated areas. Local exhaust is recommended. Avoid inhalation of vapors/mist and contact with skin and eyes. Wear appropriate personal protective equipment. Keep away from heat, spark, open flames and other sources of ignition.

**Storage** Keep away from heat, sparks and open flame. Store in tightly closed original container in a dry and cool place.

## 8. Exposure Controls / Personal Protection

### Occupational exposure limits

#### ACGIH

Components	Type	Value	Form
Ethylene glycol (107-21-1)	TWA	100 mg/m <sup>3</sup>	Aerosol.
Organic compound (Proprietary)	TWA	10 mg/m <sup>3</sup>	Mist.

#### U.S. - OSHA

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm	
Organic compound (Proprietary)	PEL	125 mg/m <sup>3</sup>	Respirable fraction.
		5 mg/m <sup>3</sup>	Total dust.
	TWA	15 mg/m <sup>3</sup>	Total dust.
		10 mg/m <sup>3</sup>	Respirable fraction.

**Canada - Alberta**

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

**Canada - British Columbia**

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm	Vapor.
		100 mg/m3	Aerosol.
	STEL	20 mg/m3	Particulate.
	TWA	10 mg/m3	Particulate.
Organic compound (Proprietary)	TWA	3 mg/m3	Respirable mist.
		10 mg/m3	Mist.

**Canada - Ontario**

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

**Canada - Quebec**

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm	Vapor and mist.
		127 mg/m3	Vapor and mist.
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

**Mexico**

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	100 mg/m3	Aerosol.
Organic compound (Proprietary)	TWA	10 mg/m3	Mist.

**Engineering controls** Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply and eye wash facilities.

**Personal protective equipment**

**Eye / face protection** Wear approved chemical safety goggles.

**Skin protection** Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

**Respiratory protection** In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment.

**General hygiene considerations** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

**9. Physical & Chemical Properties**

<b>Color</b>	Cyan
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>pH</b>	6.5 - 7.5
<b>Melting point</b>	Not available.
<b>Freezing point</b>	Not available.
<b>Boiling point</b>	> 194 °F (> 90 °C)
<b>Flash point</b>	> 200 °F (> 93.3 °C)
<b>Evaporation rate</b>	Not available.
<b>Flammability</b>	Not available.
<b>Flammability limits in air, upper, % by volume</b>	Not available.
<b>Flammability limits in air, lower, % by volume</b>	Not available.
<b>Vapor pressure</b>	Not available.

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<b>Vapor density</b>	> 1 (air=1)
<b>Specific gravity</b>	1 - 1.1
<b>Solubility (water)</b>	Soluble in water.
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	< 15 cP

## 10. Chemical Stability & Reactivity Information

<b>Chemical stability</b>	Stable at normal conditions.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Carbon oxides. Copper compounds. Sulfur oxides. Nitrogen oxides (NOx).
<b>Possibility of hazardous reactions</b>	Will not occur.

## 11. Toxicological Information

### Toxicological data

#### Components

Ethylene glycol (107-21-1)

Proprietary cyan dye (N/A)

Organic compound 2 (Proprietary)

#### Test Results

Acute Dermal LD50 Rabbit: 9530 mg/kg

Acute Oral LD50 Rat: 4700 mg/kg

Acute Oral 500 - 5000 mg/kg

Acute Oral LD50 Guinea pig: 6500 mg/kg

Acute Oral LD50 Rat: 6500 mg/kg

<b>Acute effects</b>	Harmful if swallowed.
<b>Local effects</b>	Causes skin, eye and respiratory tract irritation. May cause central nervous system effects.
<b>Sensitization</b>	Not a skin sensitizer.
<b>Chronic effects</b>	May cause damage to the kidneys.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>ACGIH Carcinogens</b>	
Ethylene glycol (CAS 107-21-1)	A4 Not classifiable as a human carcinogen.
<b>Mutagenicity</b>	None known.
<b>Reproductive effects</b>	May damage the unborn child if very large amounts are swallowed.
<b>Symptoms and target organs</b>	Irritating and may cause redness and pain. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

## 12. Ecological Information

### Ecotoxicological data

#### Components

Ethylene glycol (107-21-1)

Organic compound 2 (Proprietary)

#### Test Results

LC50 Fathead minnow (*Pimephales promelas*): 8050 mg/l 96 hours

EC50 Water flea (*Daphnia pulex*): 13.21 mg/l 48 hours

<b>Ecotoxicity</b>	Harmful to aquatic life.
<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulation / Accumulation</b>	No data available.
<b>Partition coefficient (n-octanol/water)</b>	Not available
<b>Mobility in environmental media</b>	The product is water soluble and may spread in water systems.

### 13. Disposal Considerations

<b>Disposal instructions</b>	Dispose of waste and residues in accordance with local authority requirements.
<b>Waste from residues / unused products</b>	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Do not discharge into drains, water courses or onto the ground.
<b>Contaminated packaging</b>	Since emptied containers retain product residue, follow label warnings even after container is emptied.

### 14. Transport Information

#### DOT

Not regulated as dangerous goods.

**UN No: Not Applicable**

#### DOT

Not regulated as dangerous goods.

#### IATA

Not regulated as dangerous goods.

#### IMDG

Not regulated as dangerous goods.

#### TDG

Not regulated as dangerous goods.

### 15. Regulatory Information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration**

Ethylene glycol (CAS 107-21-1) 1.0 %

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

Ethylene glycol (CAS 107-21-1) Listed.

**CERCLA (Superfund) reportable quantity (lbs)**

Ethylene glycol 5000

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**  
Immediate Hazard - Yes  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**Section 302 extremely hazardous substance** No

**Section 311 hazardous chemical** Yes

**Drug Enforcement Agency (DEA)** Not controlled

**WHMIS status** Controlled

**WHMIS classification** D2B - Other Toxic Effects-TOXIC

**WHMIS labeling**



**Inventory status**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

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Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**State regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**US - California Hazardous Substances (Director's): Listed substance**

Ethylene glycol (CAS 107-21-1) Listed.

**US - Massachusetts RTK - Substance: Listed substance**

Ethylene glycol (CAS 107-21-1) Listed.  
Organic compound (CAS Proprietary) Listed.  
Organic compound 2 (CAS Proprietary) Listed.

**US - New Jersey Community RTK (EHS Survey): Reportable threshold**

Ethylene glycol (CAS 107-21-1) 500 LBS

**US - New Jersey RTK - Substances: Listed substance**

Ethylene glycol (CAS 107-21-1) Listed.

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**

Ethylene glycol (CAS 107-21-1) Listed.  
Organic compound (CAS Proprietary) Listed.  
Organic compound 2 (CAS Proprietary) Listed.

**16. Other Information**

<b>Further information</b>	HMIS® is a registered trade and service mark of the NPCA. C - Safety Glasses, Gloves, Apron
<b>HMIS® ratings</b>	Health: 1* Flammability: 1 Physical hazard: 0 Personal protection: C
<b>NFPA ratings</b>	Health: 1 Flammability: 1 Instability: 0
<b>Disclaimer</b>	To the best of our knowledge, the information contained herein is accurate. However no warranty, guarantee or representation is made as to its accuracy, reliability or completeness. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability to assure proper use, disposal, and safety of these materials.
<b>Issue date</b>	08-23-2010