



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898CY  
**Product name** Cyan  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
C.I. Pigment Blue 15:3	147-14-8	5 - 10
Glycerol	56-81-5	5 - 10
Diethylene glycol	111-46-6	1 - 5
Triethylene glycol monobutyl ether	143-22-6	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
C.I. Pigment Blue 15:3				100 mg/m <sup>3</sup>	
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>

NIOSH IDLH: *Immediately Dangerous to Life or Health*

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	0.838
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	6.993	<b>VOC grams/liter (less water)</b>	
<b>VOC by weight</b>		<b>Water by weight</b>	93.15
<b>VOC lbs/gal (less water)</b>			
<b>Volatile by weight (including Water)</b>	81.06		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	

**Chronic Toxicity**

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available

<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Liver, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
C.I. Pigment Blue 15:3		48 Hr LC50 Oryzias latipes: >100 mg/L [static]	
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation</b>	No information available
<b>Mobility in Environmental Media</b>	No information available

Component	log Pow
C.I. Pigment Blue 15:3	6.6
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal Methods</b>	Dispose of contents/container in accordance with local regulation.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

## 15. REGULATORY INFORMATION

### International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

### U.S. Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Triethylene glycol monobutyl ether	143-22-6	1 - 5	1.0

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Component	CAS-No	Weight %
Triethylene glycol monobutyl ether	143-22-6	1 - 5

**U.S. State Regulations****State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
C.I. Pigment Blue 15:3	Not Listed	Not Listed	X	X	Not Listed	Not Listed
Glycerol	Not Listed	Not Listed	X	X	X	X
Diethylene glycol	Not Listed	Not Listed	Not Listed	X	Not Listed	X
Triethylene glycol monobutyl ether	Not Listed	Not Listed	X	X	Not Listed	Not Listed

**Canada**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
C.I. Pigment Blue 15:3	Uncontrolled product according to WHMIS classification criteria
Glycerol	Uncontrolled product according to WHMIS classification criteria

Component	NPRI - National Pollutant Release Inventory
C.I. Pigment Blue 15:3	Part 1, Group 1 Substance
Glycerol	Part 4 Substance
Diethylene glycol	Part 4 Substance

**REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006**

Does NOT contain a listed substance

<b>HMIS:</b>	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>PPE</b>
	1	1	0	X

**16. OTHER INFORMATION**

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898KL  
**Product name** Light Black  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
Diethylene glycol	111-46-6	5 - 10
Triethylene glycol monobutyl ether	143-22-6	1 - 5
Carbon black	1333-86-4	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>
Carbon black	TWA: 3.5 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	1750 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>

NIOSH IDLH: *Immediately Dangerous to Life or Health*

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.



**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	1.033
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	8.61	<b>VOC grams/liter (less water)</b>	549.444
<b>VOC by weight</b>	53.256	<b>Water by weight</b>	70.3
<b>VOC lbs/gal (less water)</b>	4.585		
<b>Volatile by weight (including Water)</b>	84.88		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	
Carbon black	15400 mg/kg ( Rat )	3 g/kg ( Rabbit )	

### Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Carbon black		Group 2B		X

Carbon black is classified as a carcinogen by the IARC (possibly carcinogenic to humans, Group 2B). In their evaluation of carbon black, IARC indicates exposure to carbon black, per se, does not occur when it remains bound within a product matrix, specifically, rubber, ink, or paint. Carbon black is present only in a bound form in this preparation.

## Legend:

IARC: (International Agency for Research on Cancer)  
OSHA: (Occupational Safety & Health Administration)

Group 2B - Possibly Carcinogenic to Humans  
X - Present

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Lymphatic System, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L
Carbon black			24 Hr EC50 Daphnia magna: >5600 mg/L

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation</b>	No information available
<b>Mobility in Environmental Media</b>	No information available

Component	log Pow
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal Methods</b>	Dispose of contents/container in accordance with local regulation.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations



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*16. OTHER INFORMATION*

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898CL  
**Product name** Light Cyan  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
Diethylene glycol	111-46-6	5 - 10
Triethylene glycol monobutyl ether	143-22-6	5 - 10
C.I. Pigment Blue 15:3	147-14-8	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>
C.I. Pigment Blue 15:3				100 mg/m <sup>3</sup>	

NIOSH IDLH: *Immediately Dangerous to Life or Health*

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	0.972
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	8.098	<b>VOC grams/liter (less water)</b>	
<b>VOC by weight</b>		<b>Water by weight</b>	76.47
<b>VOC lbs/gal (less water)</b>			
<b>Volatile by weight (including Water)</b>	87.43		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	

### Chronic Toxicity

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available

<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Liver, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L
C.I. Pigment Blue 15:3		48 Hr LC50 Oryzias latipes: >100 mg/L [static]	

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation</b>	No information available
<b>Mobility in Environmental Media</b>	No information available

Component	log Pow
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51
C.I. Pigment Blue 15:3	6.6

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal Methods</b>	Dispose of contents/container in accordance with local regulation.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

## 15. REGULATORY INFORMATION

### International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

### U.S. Federal Regulations



**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Triethylene glycol monobutyl ether	143-22-6	5 - 10	1.0

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Component	CAS-No	Weight %
Triethylene glycol monobutyl ether	143-22-6	5 - 10

**U.S. State Regulations****State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Glycerol	Not Listed	Not Listed	X	X	X	X
Diethylene glycol	Not Listed	Not Listed	Not Listed	X	Not Listed	X
Triethylene glycol monobutyl ether	Not Listed	Not Listed	X	X	Not Listed	Not Listed
C.I. Pigment Blue 15:3	Not Listed	Not Listed	X	X	Not Listed	Not Listed

**Canada**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Glycerol	Uncontrolled product according to WHMIS classification criteria
C.I. Pigment Blue 15:3	Uncontrolled product according to WHMIS classification criteria

Component	NPRI - National Pollutant Release Inventory
Glycerol	Part 4 Substance
Diethylene glycol	Part 4 Substance
C.I. Pigment Blue 15:3	Part 1, Group 1 Substance

**REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006**

Does NOT contain a listed substance

<b>HMIS:</b>	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>PPE</b>
	1	1	0	X

**16. OTHER INFORMATION**

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898KX  
**Product name** Light Light Black  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
Diethylene glycol	111-46-6	5 - 10
Triethylene glycol monobutyl ether	143-22-6	1 - 5
Carbon black	1333-86-4	< 0.5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>
Carbon black	TWA: 3.5 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	1750 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	1.029
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	8.578	<b>VOC grams/liter (less water)</b>	595.468
<b>VOC by weight</b>	57.932	<b>Water by weight</b>	70.22
<b>VOC lbs/gal (less water)</b>	4.969		
<b>Volatile by weight (including Water)</b>	86.28		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	
Carbon black	15400 mg/kg ( Rat )	3 g/kg ( Rabbit )	

### Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Carbon black		Group 2B		X

Carbon black is classified as a carcinogen by the IARC (possibly carcinogenic to humans, Group 2B). In their evaluation of carbon black, IARC indicates exposure to carbon black, per se, does not occur when it remains bound within a product matrix, specifically, rubber, ink, or paint. Carbon black is present only in a bound form in this preparation.

## Legend:

IARC: (International Agency for Research on Cancer)  
OSHA: (Occupational Safety & Health Administration)

Group 2B - Possibly Carcinogenic to Humans  
X - Present

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L
Carbon black			24 Hr EC50 Daphnia magna: >5600 mg/L

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation</b>	No information available
<b>Mobility in Environmental Media</b>	No information available

Component	log Pow
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal Methods</b>	Dispose of contents/container in accordance with local regulation.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations



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*16. OTHER INFORMATION*

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**





## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898ML  
**Product name** Light Magenta  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
Diethylene glycol	111-46-6	5 - 10
Triethylene glycol monobutyl ether	143-22-6	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	0.996
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	8.304	<b>VOC grams/liter (less water)</b>	
<b>VOC by weight</b>		<b>Water by weight</b>	72.13
<b>VOC lbs/gal (less water)</b>			
<b>Volatile by weight (including Water)</b>	85.14		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	

### Chronic Toxicity

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L

**Persistence and Degradability** No information available  
**Bioaccumulation** No information available  
**Mobility in Environmental Media** No information available

Component	log Pow
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of contents/container in accordance with local regulation.  
**Contaminated Packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

## 15. REGULATORY INFORMATION

### International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Triethylene glycol monobutyl ether	143-22-6	1 - 5	1.0

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Component	CAS-No	Weight %
Triethylene glycol monobutyl ether	143-22-6	1 - 5

**U.S. State Regulations****State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Glycerol	Not Listed	Not Listed	X	X	X	X
Diethylene glycol	Not Listed	Not Listed	Not Listed	X	Not Listed	X
Triethylene glycol monobutyl ether	Not Listed	Not Listed	X	X	Not Listed	Not Listed

**Canada**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Glycerol	Uncontrolled product according to WHMIS classification criteria

Component	NPRI - National Pollutant Release Inventory
Glycerol	Part 4 Substance
Diethylene glycol	Part 4 Substance

**REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006**

Does NOT contain a listed substance

<b>HMIS:</b>	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>PPE</b>
	1	1	0	X

**16. OTHER INFORMATION**

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898MA  
**Product name** Magenta  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
Diethylene glycol	111-46-6	5 - 10
Triethylene glycol monobutyl ether	143-22-6	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	0.868
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	7.243	<b>VOC grams/liter (less water)</b>	
<b>VOC by weight</b>		<b>Water by weight</b>	85.49
<b>VOC lbs/gal (less water)</b>			
<b>Volatile by weight (including Water)</b>	74.32		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	

### Chronic Toxicity

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Respiratory system, Skin.



## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation</b>	No information available
<b>Mobility in Environmental Media</b>	No information available

Component	log Pow
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal Methods</b>	Dispose of contents/container in accordance with local regulation.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

## 15. REGULATORY INFORMATION

### International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Triethylene glycol monobutyl ether	143-22-6	1 - 5	1.0

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Component	CAS-No	Weight %
Triethylene glycol monobutyl ether	143-22-6	1 - 5

**U.S. State Regulations****State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Glycerol	Not Listed	Not Listed	X	X	X	X
Diethylene glycol	Not Listed	Not Listed	Not Listed	X	Not Listed	X
Triethylene glycol monobutyl ether	Not Listed	Not Listed	X	X	Not Listed	Not Listed

**Canada**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Glycerol	Uncontrolled product according to WHMIS classification criteria

Component	NPRI - National Pollutant Release Inventory
Glycerol	Part 4 Substance
Diethylene glycol	Part 4 Substance

**REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006**

Does NOT contain a listed substance

<b>HMIS:</b>	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>PPE</b>
	1	1	0	X

**16. OTHER INFORMATION**

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898KM  
**Product name** Matte Black  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Cheshire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
1-Methyl-2-pyrrolidone	872-50-4	1 - 5
Triethylene glycol monobutyl ether	143-22-6	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>
1-Methyl-2-pyrrolidone			TWA: 400 mg/m <sup>3</sup>		

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	1.021
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	8.51	<b>VOC grams/liter (less water)</b>	177.963
<b>VOC by weight</b>	17.452	<b>Water by weight</b>	72.4
<b>VOC lbs/gal (less water)</b>	1.485		
<b>Volatile by weight (including Water)</b>	78.95		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
1-Methyl-2-pyrrolidone	3598 mg/kg ( Rat )	2000 mg/kg ( Rabbit ) 2500 mg/kg ( Rat )	3.1 mg/L ( Rat ) 4 h
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	

### Chronic Toxicity

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
1-Methyl-2-pyrrolidone	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Lepomis macrochirus: 832 mg/L [static]; 96 Hr LC50 Leuciscus idus: 4000 mg/L [static]; 96 Hr LC50 Pimephales promelas: 1072 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 1400 mg/L [static]	96 Hr EC50 water flea: 3135 mg/L; 48 Hr EC50 Daphnia magna: 4897 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation</b>	No information available
<b>Mobility in Environmental Media</b>	No information available

Component	log Pow
Glycerol	-1.76
1-Methyl-2-pyrrolidone	-0.46
Triethylene glycol monobutyl ether	0.51

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal Methods</b>	Dispose of contents/container in accordance with local regulation.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

## 15. REGULATORY INFORMATION

### International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Triethylene glycol monobutyl ether	143-22-6	1 - 5	1.0
1-Methyl-2-pyrrolidone	872-50-4	1 - 5	1.0

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Component	CAS-No	Weight %
Triethylene glycol monobutyl ether	143-22-6	1 - 5

**U.S. State Regulations****California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer. WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Component	CAS-No	Weight %
1-Methyl-2-pyrrolidone	872-50-4	1 - 5

**State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Glycerol	Not Listed	Not Listed	X	X	X	X
1-Methyl-2-pyrrolidone	Not Listed	Not Listed	X	X	X	Not Listed
Triethylene glycol monobutyl ether	Not Listed	Not Listed	X	X	Not Listed	Not Listed

**Canada**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Glycerol	Uncontrolled product according to WHMIS classification criteria

Component	NPRI - National Pollutant Release Inventory
Glycerol	Part 4 Substance
1-Methyl-2-pyrrolidone	Part 4 Substance Part 1, Group 1 Substance

**REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006**

Does NOT contain a listed substance

<b>HMIS:</b>	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>PPE</b>
	1	1	0	X

**16. OTHER INFORMATION**

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**





## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898KP  
**Product name** Photo Black  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
Diethylene glycol	111-46-6	1 - 5
Triethylene glycol monobutyl ether	143-22-6	1 - 5
Carbon black	1333-86-4	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>
Carbon black	TWA: 3.5 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	1750 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>

NIOSH IDLH: *Immediately Dangerous to Life or Health*

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	1.038
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	8.654	<b>VOC grams/liter (less water)</b>	493.409
<b>VOC by weight</b>	47.581	<b>Water by weight</b>	70.8
<b>VOC lbs/gal (less water)</b>	4.118		
<b>Volatile by weight (including Water)</b>	83.4		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	
Carbon black	15400 mg/kg ( Rat )	3 g/kg ( Rabbit )	

### Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Carbon black		Group 2B		X

Carbon black is classified as a carcinogen by the IARC (possibly carcinogenic to humans, Group 2B). In their evaluation of carbon black, IARC indicates exposure to carbon black, per se, does not occur when it remains bound within a product matrix, specifically, rubber, ink, or paint. Carbon black is present only in a bound form in this preparation.

Legend:

IARC: (International Agency for Research on Cancer)  
 OSHA: (Occupational Safety & Health Administration)

Group 2B - Possibly Carcinogenic to Humans  
 X - Present

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Lymphatic System, Respiratory system, Skin.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L
Carbon black			24 Hr EC50 Daphnia magna: >5600 mg/L

<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation</b>	No information available
<b>Mobility in Environmental Media</b>	No information available

Component	log Pow
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51

**13. DISPOSAL CONSIDERATIONS**

<b>Waste Disposal Methods</b>	Dispose of contents/container in accordance with local regulation.
<b>Contaminated Packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.

**14. TRANSPORT INFORMATION**

**DOT**

Printing Ink, Not Regulated

**ICAO/IATA**

Not classified as dangerous in the meaning of transport regulations

**IMDG/IMO**

Not classified as dangerous in the meaning of transport regulations



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*16. OTHER INFORMATION*

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jun-23-2009

Revision Date Jun-23-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** LPAPHCR7898YE  
**Product name** Yellow  
**Product description** Lyson® Photochrome® V3 Inkjet Ink

#### Manufacturer or supplier's details

UNITED STATES  
Nazdar Company  
8501 Hedge Lane Terrace  
Shawnee, KS 66227  
Tel: 1-913-422-1888  
Tel: 1-800-677-4657  
Fax: 1-913-422-2294

UNITED KINGDOM  
Nazdar Limited  
7 Barton Road  
Heaton Mersey Industrial Estate  
Stockport, Chesire SK4 3EG  
Tel: +44 161 442 2111

#### Emergency Telephone Number

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887

Website: [www.nazdar.com](http://www.nazdar.com)  
MSDS Information: 1-913-422-1888 ext 2305  
MSDS Contact: Regulatory Compliance  
email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

### 2. HAZARDS IDENTIFICATION

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Colored  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Glycerol	56-81-5	5 - 10
Triethylene glycol monobutyl ether	143-22-6	1 - 5
Diethylene glycol	111-46-6	1 - 5

### 4. FIRST AID MEASURES

**Skin Contact** Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

**Inhalation** Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion** If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

**Flammable Properties** No information available

<b>Suitable Extinguishing Media</b>	Water spray. Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	Ontario TWAEV	NIOSH IDLH	Mexico OEL (TWA)
Glycerol	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup>

<b>Engineering Measures</b>	Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Personal Protective Equipment</b>	
<b>Respiratory Protection</b>	Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.
<b>Eye Protection</b>	Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.
<b>Skin Protection</b>	Wear protective gloves/clothing. Solvent-resistant apron and boots.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	7-9	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>100°C / >212°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	0°C / 32°F	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	> 93°C / > 200°F
<b>Flammability Limits in Air</b>		<b>Photochemically Reactive</b>	No
<b>Upper</b>	No information available	<b>Specific Gravity</b>	1.022
<b>Lower</b>	No information available	<b>VOC by volume</b>	No information available
<b>Weight Per Gallon (lbs/gal)</b>	8.516	<b>VOC grams/liter (less water)</b>	562.099
<b>VOC by weight</b>	55.084	<b>Water by weight</b>	78.07
<b>VOC lbs/gal (less water)</b>	4.691		
<b>Volatile by weight (including Water)</b>	89.22		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Do not freeze.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	570 mg/m <sup>3</sup> ( Rat ) 1 h
Triethylene glycol monobutyl ether	5300 mg/kg ( Rat )	3480 mg/kg ( Rabbit )	
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	

### Chronic Toxicity

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	No information available
<b>Target Organ Effects</b>	Eyes, Kidney, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Glycerol		96 Hr LC50 Oncorhynchus mykiss: 51000-57000 mg/L	24 Hr EC50 Daphnia magna: >500 mg/L
Triethylene glycol monobutyl ether	72 Hr EC50 Scenedesmus subspicatus: >500 mg/L	96 Hr LC50 Leuciscus idus: 2200-4600 mg/L [static]; 96 Hr LC50 Pimephales promelas: 2400 mg/L [static]	48 Hr EC50 Daphnia magna: >500 mg/L
Diethylene glycol		96 Hr LC50 Pimephales promelas: 75200 mg/L [flow-through]	96 Hr EC50 water flea: 0.3 mg/L [Static]; 48 Hr EC50 Daphnia magna: 84000 mg/L

**Persistence and Degradability** No information available  
**Bioaccumulation** No information available  
**Mobility in Environmental Media** No information available

Component	log Pow
Glycerol	-1.76
Triethylene glycol monobutyl ether	0.51
Diethylene glycol	-1.98

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of contents/container in accordance with local regulation.

**Contaminated Packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

### DOT

Printing Ink, Not Regulated

### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

## 15. REGULATORY INFORMATION

### International Inventories

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Triethylene glycol monobutyl ether	143-22-6	1 - 5	1.0

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Component	CAS-No	Weight %
Triethylene glycol monobutyl ether	143-22-6	1 - 5

**U.S. State Regulations****State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Glycerol	Not Listed	Not Listed	X	X	X	X
Triethylene glycol monobutyl ether	Not Listed	Not Listed	X	X	Not Listed	Not Listed
Diethylene glycol	Not Listed	Not Listed	Not Listed	X	Not Listed	X

**Canada**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Glycerol	Uncontrolled product according to WHMIS classification criteria

Component	NPRI - National Pollutant Release Inventory
Glycerol	Part 4 Substance
Diethylene glycol	Part 4 Substance

**REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006**

Does NOT contain a listed substance

<b>HMIS:</b>	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>	<b>PPE</b>
	1	1	0	X

**16. OTHER INFORMATION**

Revision Date Jun-23-2009

Revision Summary New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**