### SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>CAS # / EC # (as mist)</th>
<th>Weight %</th>
<th>EU Symbol/ R-Phrase</th>
<th>USA OSHA PEL</th>
<th>ACGIH TLV</th>
<th>EU ILV</th>
<th>MAK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>56-81-5 / 200-289-5</td>
<td>5 - 10</td>
<td>None / None</td>
<td>(as mist)</td>
<td>TWA = 15 mg/m³</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1 / 203-473-3</td>
<td>2 - 6</td>
<td>Xa / R22</td>
<td>Not established</td>
<td>(aerosol) Ceiling = 100 mg/m³</td>
<td>TWA = 20 ppm, 52 mg/m³ STEL = 40 ppm, 104 mg/m³</td>
<td>10 ppm, 26 mg/m³</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>111-46-6 / 203-872-2</td>
<td>2 - 6</td>
<td>Xa / R22</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>10 ppm, 44 mg/m³</td>
</tr>
<tr>
<td>Copper, [29H,31H-phthalocyaninato(2-) - N29,N30,N31,N32-, aminosulfanyl sulfo derivs., sodium salts] (Contained only in cyan ink)</td>
<td>90295-11-7 / 291-001-7</td>
<td>2 - 6</td>
<td>Xi / R41</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Copper and its compounds Inhalable fraction 1.0 mg/m³</td>
</tr>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0 / 200-661-7</td>
<td>1 - 3</td>
<td>F / R11, Xi / R36, R67</td>
<td>TWA = 400 ppm, 980 mg/m³</td>
<td>TWA = 200 ppm, 492 mg/m³ STEL = 400 ppm, 984 mg/m³</td>
<td>Not established</td>
<td>200 ppm, 500 mg/m³</td>
</tr>
<tr>
<td>Quinoline derivative (Contained only in magenta ink)</td>
<td>Confidential</td>
<td>1 - 3</td>
<td>Xi / R36</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Triazine derivative (Contained only in magenta ink)</td>
<td>Confidential</td>
<td>1 - 3</td>
<td>Xi / R36, R52/53</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Ammonia derivative</td>
<td>Confidential</td>
<td>5 - 10</td>
<td>None / None</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Lactam (Contained in cyan and yellow ink)</td>
<td>Confidential</td>
<td>2 - 6</td>
<td>None / None</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5 / 231-791-2</td>
<td>55 - 75</td>
<td>None / None</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

**Date of Issue:** June 18, 2001  
**Revised:** December 25, 2003
No component of this ink is listed as a human carcinogen or a potential carcinogen in IARC Monographs, NTP, OSHA regulations or Annex I to Directive 67/548/EEC.

SECTION 3 HAZARDS IDENTIFICATION

EU Classification:
Not classified as dangerous.

Emergency Overview:
A set of three colors ink tanks. (Cyan, Magenta and Yellow)
All the ink is liquid mixture with slight odor.

Potential Health Effects and Symptoms:

Inhalation:
No adverse effects are expected under intended use.
Over exposure to vapor or mist may cause respiratory tract irritation, cough, dizziness, drowsiness, headache and nausea.

Ingestion:
May cause abdominal pain, diarrhea, dizziness, drowsiness, dullness, headache, nausea and vomiting.

Eye:
May cause minimal irritation. (See SECTION 11)

Skin:
May cause mild irritation and no sensitization. (See SECTION 11)

Chronic Effects:
Not identified

Medical Conditions Generally known to be Aggravated by Exposure:
Not identified

SECTION 4 FIRST AID MEASURES

First Aid Measures:

Inhalation:
If symptoms are experienced, move victim to fresh air and obtain medical advice.

Ingestion:
Rinse mouth. Give one or two glasses of water.
If irritation or discomfort occurs, obtain medical advice immediately.

Eye:
Immediately flush with lukewarm, gently flowing water for 5 minutes or until the chemical is removed.
If irritation persists, obtain medical advice immediately.

Skin:
Wash with water and soap or mild detergent.
If irritation persists, obtain medical advice.

Note to Physicians:
None
SECTION 5  FIRE FIGHTING MEASURES

Fire Fighting Measures:

  Extinguishing Media:
  CO₂, water, foam or dry chemicals

  Unsuitable Extinguishing Media:
  None

  Special Fire Fighting Procedures:
  None

  Unusual Fire and Explosion Hazards:
  None

Fire and Explosive Properties (See also Section 9):

  Hazardous Combustion Products:
  CO, CO₂ and NOx

  Other Properties:
  None

SECTION 6  ACCIDENTAL RELEASE MEASURES

Personal Precautions:
  Avoid contact with skin, eyes and clothing.

Environmental Precautions:
  Do not release to sewer, surface water or ground water.

Method for Cleaning Up:
  Wipe off with wet cloth or paper.

SECTION 7  HANDLING AND STORAGE

Handling:
  Use with adequate ventilation.
  Avoid contact with skin, eyes and clothing.
  In case of contact, wash out the contaminated area immediately.

Storage:
  Keep in a cool and dry place. Protect from sunlight.
  Keep away from heat and flame.
  Keep out of the reach of children.

Specific Uses:
  Ink for Ink Jet Printer.
  For more information, please refer to the instruction of this product.

SECTION 8  EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:
  Not established for this ink. (See also SECTION 2)

Engineering Controls:
  Use adequate ventilation.

Personal Protection Equipment(s):

  Respiratory Protection: □ Required
  ☒ Not Required

  Eye/Face Protection: □ Required
  ☒ Not Required

  Skin Protection: □ Required
  ☒ Not Required
## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Cyan, magenta and yellow liquid</td>
</tr>
<tr>
<td>Odor:</td>
<td>Slight odor</td>
</tr>
<tr>
<td>pH:</td>
<td>8.0 - 10.0</td>
</tr>
<tr>
<td>Boiling Point/Range(°C):</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point/Range(°C):</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature(°C):</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point(°C):</td>
<td>Estimate: 55 - 57 (Tag. Closed Cup. Combustion is not sustainable.)</td>
</tr>
<tr>
<td>Flammable (Explosive) Limits:</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition Temperature(°C):</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability:</td>
<td>Classified as &quot;combustible liquid&quot; under OSHA-HCS. Not classified as &quot;flammable&quot; or &quot;combustible&quot; under FHSA. Not classified as &quot;flammable&quot; under 1999/45/EC.</td>
</tr>
<tr>
<td>Explosive Properties:</td>
<td>None</td>
</tr>
<tr>
<td>Oxidizing Properties:</td>
<td>None</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density :</td>
<td>Not available</td>
</tr>
<tr>
<td>Density / Specific Gravity:</td>
<td>1.04 - 1.10</td>
</tr>
<tr>
<td>Water Solubility:</td>
<td>Miscible</td>
</tr>
<tr>
<td>Fat Solubility :</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition Coefficient (n-Octanol/Water):</td>
<td>Not available</td>
</tr>
<tr>
<td>Percent Volatile (%)</td>
<td>55 - 75</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity (mPa s):</td>
<td>1.9 - 2.6</td>
</tr>
</tbody>
</table>

## SECTION 10 STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability:</td>
<td>✗ Stable</td>
</tr>
<tr>
<td>Conditions to Avoid:</td>
<td>None</td>
</tr>
<tr>
<td>Materials to Avoid:</td>
<td>Acids, bases, oxidizing materials and reducing agents</td>
</tr>
<tr>
<td>Hazardous Decomposition Products:</td>
<td>CO, CO₂, NOx and Ammonia</td>
</tr>
<tr>
<td>Hazardous Polymerization:</td>
<td>☐ May Occur</td>
</tr>
<tr>
<td>Conditions to Avoid:</td>
<td>None</td>
</tr>
</tbody>
</table>

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SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Inhalation:
Not available

Ingestion:
Cyan and Magenta: [Data of similar composition ink] Estimated LD₅₀ > 2500 mg/kg (rat)
OECD Guidelines No.423 (1996)
96/54/EC Method B1 tris
Yellow: Not available

Eye:
All colors: [Data of similar composition ink] Minimal irritant (rabbit)
OECD Guidelines No.405 (1987)
92/69/EEC Method B5

Skin:
All colors: [Data of similar composition ink] Mild irritant (rabbit)
OECD Guidelines No.404 (1992)
92/69/EEC Method B4

Sensitization:
All colors: [Data of similar composition ink] Non-sensitizer (guinea pig)
96/54/EC Method B6

Mutagenicity:
Ames test:
All colors: Negative (test strains: S. typhimurium & E. Coli)

Chromosome aberration test:
Magenta: Negative (test strains: Human peripheral blood lymphocytes)
Cyan and Yellow: Not available

Reproductive Toxicity:
Not available

Carcinogenicity:
Not available

Others:
Not available

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SECTION 12  ECOLOGICAL INFORMATION

Mobility: Not available

Persistence / Degradability: Not available

Bioaccumulation: Not available

Ecotoxicity: Not available

Other Adverse Effects: Not available

SECTION 13  DISPOSAL CONSIDERATION

Method of Disposal:
Disposal should be subject to federal, state and local laws.

SECTION 14  TRANSPORT INFORMATION

UN #: None

UN Shipping Name: None

UN Classification: None

UN Packing Group: None

Marine Pollutant: Yes

Chemical name (wt%): No

Special Precautions: None

SECTION 15  REGULATORY INFORMATION

< EU Information >

Information on the Label:
Symbol & Indication: Not required

R-Phrase: Not required

S-Phrase: Not required

Dangerous Component(s): None

Special Precautions under 1999/45/EC Annex V: Not required

Specific Provisions in Relation to Protection of Man or the Environment:

76/769/EEC: Not regulated

(EC)2037/2000: Not regulated

(EC)304/2003: Not regulated

Others: None

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Information on the Label under FHSA:

- Signal Word: Not required
- Hazard warning: Not required
- Safety Advice: Not required
- Hazardous Component(s): None

SARA Title III §313:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Ethylene glycol&quot; (107-21-1)</td>
<td>2 - 6</td>
</tr>
<tr>
<td>(Contained in cyan and magenta ink)</td>
<td></td>
</tr>
<tr>
<td>&quot;Copper Compounds&quot; (Contained only</td>
<td>2 - 6</td>
</tr>
<tr>
<td>only in cyan ink)</td>
<td>(&lt; 0.35)</td>
</tr>
<tr>
<td>(as Cu)</td>
<td></td>
</tr>
</tbody>
</table>

California Proposition 65:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

WHMIS Controlled Product: Not applicable (Manufactured article)

Statement of Hazardous Nature: Not classified as hazardous according to criteria of NOHSC.

SECTION 16 OTHER INFORMATION

- R11: Highly flammable.
- R22: Harmful if swallowed.
- R36: Irritating to eyes.
- R41: Risk of serious damage to eyes.
- R67: Vapours may cause drowsiness and dizziness.
- R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<Revised information from the previous version>
Section 2, 7, 9 and 11

Date of Issue: June 18, 2001
Revised: December 25, 2003
Literature Reference:
- U.S. Department of Labor, 29CFR Part 1910
- U.S. Environmental Protection Agency, 40CFR Part 372
- U.S. Consumer Product Safety Commission, 16CFR Part 1500
- ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
- U.S. Department of Health and Human Services National Toxicology Program, Annual Report on Carcinogens
- DFG, List of MAK and BAT Values
- Canada Workplace Hazardous Materials Information System

Abbreviations:

EU: European Union.
OSHA PEL: PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration (USA).
ACGIH TLV: TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists.
DFG MAK: MAK(Maximale Arbeitsplatz-Konzentration) under Deutsche Forschungsgemeinschaft.
TWA: Time Weighted Average.
STEL: Short Term Exposure Limit.
IARC: International Agency for Research on Cancer.
NTP: National Toxicology Program (USA).
OSHA HCS: Occupational Safety and Health Act, Hazard Communication Standard (USA).
FHSA: Federal Hazardous Substances Act (USA).

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