# MATERIAL SAFETY DATA SHEET

## SECTION 1  IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

- **Product Name:** Ink Optimizer Tank BCI-8WF
- **Product Code:** F47-1781
- **Manufacturer:** Canon Inc., 30-2,Shimomaruko 3-Chome,Ohta-ku,Tokyo,Japan, Ph # 03-3758-2111
- **Supplier:** Canon USA, Inc., One Canon Park, Melville, NY 11747, USA
- **Phone #:** 1-800-OK-CANON 24 Hr. Emergency CHEMTREC # 1-800-424-9300
- **MSDS #:** IC0210-0101

## SECTION 2  COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous Ingredient(s)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>Weight %</th>
<th>EU Symbol</th>
<th>EU R-Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>56-81-5</td>
<td>5-10</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>111-46-6</td>
<td>3-8</td>
<td>Xn</td>
<td>R22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>USA OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>(as mist)</td>
<td>(as mist)</td>
</tr>
<tr>
<td></td>
<td>Total dust</td>
<td>TWA = 15 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA = 5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EU ILV</th>
<th>DFG MAK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>Not established</td>
<td>Not established</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>Not established</td>
<td>TWA=10 ppm, 44 mg/m³</td>
</tr>
</tbody>
</table>

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## SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS - Continued

<table>
<thead>
<tr>
<th>Carcinogen Chemical Name</th>
<th>CAS #</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Ingredient(s)</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical/Generic Name</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>70 - 90</td>
</tr>
</tbody>
</table>

## SECTION 3 HAZARDS IDENTIFICATION

### Emergency Overview:
Ink optimizer tank containing transparent pale yellow liquid with slight odor.
Over exposure to vapor or mist may cause irritation.

### Potential Health Effects and Symptoms:

#### Inhalation:
No adverse effects are expected under normal use.
Over exposure to diethylene glycol may cause nausea, headache, vomiting, dizziness, drowsiness, cough, sore throat. Glycerin mist may cause physical irritation, difficulty breathing.

#### Ingestion:
Over ingestion of diethylene glycol and glycerin may cause nausea, drowsiness, dizziness, vomiting, abdominal pain, headache, diarrhea, sore throat.

#### Eye:
May be no irritant based on the animal test data. (See SECTION 11)

#### Skin:
May cause mild irritant.

### Chronic Effects:
Not identified.

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

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SECTION 4 FIRST AID MEASURES

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

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

Eye: Immediately flush with 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 immediately.

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:
Flash Point(°C): None(open cup:do not flash fire below bolding point)
Flammable(Explosive) Limits: No data available
Autoignition Temperature(°C): No data available
Flammability: Not classified as "Flammable" or "Combustible" under OSHA-HCS(USA) and 88/379/EEC(EU).

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SECTION 5  FIRE FIGHTING MEASURES - Continued

Fire and Explosive Properties - Continued:

- Autoflammability: None
- Explosive Properties: None
- Oxidizing Properties: None
- 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: It's recommended not to 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: Avoid contact with skin, eyes and clothing. When contact, wash out immediately.

Storage: Keep out of the reach of children. Store in cool and dry place.

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SECTION 8  EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: Not established for this material. See SECTION 2

Engineering Controls: Use usual ventilation to keep airborne concentrations below the permissible exposure limits. (See SECTION 2)

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

Appearance: Transparent pale yellow liquid

Odor: Slight odor
pH: 6.9 - 7.9
Boiling Point/Range(°C): No data available
Melting Point/Range(°C): No data available
Decomposition Temperature(°C): No data available
Flash Point(°C): None(open cup:do not flash fire below boiling point)
Flammable (Explosive) Limits: No data available
Autoignition Temperature(°C): No data available

Flammability: Not classified as "Flammable" or "Combustible" under OSHA-HCS(USA) and 88/379/EEC(EU).

Autoflammability: None
Explosive Properties: None
Oxidizing Properties: None
Vapor Pressure: No data available
Vapor Density: No data available
Density / Specific Gravity: 1.05
Water Solubility: Miscible
Fat Solubility: No data available
Partition Coefficient (n-Octanol/Water): No data available
Percent Volatile: 70 - 90 %
Evaporation Rate: No data available

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### SECTION 10  STABILITY AND REACTIVITY

| Stability: | ☒ Stable  ☐ Unstable |
| Conditions to Avoid: | None |
| Materials to Avoid: | None |
| Hazardous Decomposition Products: | CO, CO₂, NOₓ and Ammonia. |
| Hazardous Polymerization: | ☒ May Occur  ☐ Will Not Occur |
| Conditions to Avoid: | None |

### SECTION 11  TOXICOLOGICAL INFORMATION

| Acute Toxicity: | 
| Inhalation: | No data available |
| Ingestion: | No data available |
| Eye: | No irritant (rabbit) |
| Skin: | No data available |
| Sensitization: | Non sensitizer (guinea pig)  
Adjuvant & Patch Method |
| Mutagenicity: | Ames test : Negative  
(test strains: *S.typhimurium & E.Coli*) |
| Reproductive Toxicity: | No data available |

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SECTION 11  TOXICOLOGICAL INFORMATION - Continued


Others:  None

SECTION 12  ECOLOGICAL INFORMATION

Mobility:  No data available

Persistence / Degradability:  No data available

Bioaccumulation:  No data available

Ecotoxicity:  No data available

Other Adverse Effects:  No data available

SECTION 13  DISPOSAL CONSIDERATION

Method of Disposal:  Dispose in accordance with all applicable regulations.

SECTION 14  TRANSPORT INFORMATION

UN #:  None
UN Shipping Name:  None
UN Classification:  None
UN Packing Group:  None
Special Precautions:  None

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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

Specific Provisions in Relation to Protection of Man or the Environment:
76/769/EEC: Not regulated
(EC)3093/94: Not regulated
(EEC)2455/92: Not regulated
Others: None

USA Information:
Information on the Label:
Signal Word: Not required
Hazard warning: Not required

Safety Advice: Not required

Hazardous Component(s): None

SARA Title III §313:
Chemical Name                  Weight %
None

California Proposition 65:
Chemical Name                  Weight %
None

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SECTION 16 OTHER INFORMATION

Other Information:
None

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

Abbreviations:
"EU" stands for European Union.
"OSHA PEL" stands for PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration.
"ACGIH TLV" stands for TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists.
"EU ILV" stands for Indicative Limit Values for Occupational Exposure under EU Directive 91/322/EEC.
"DFG MAK" stands for MAK(Maximale Arbeitsplatzkonzentrationen) under Deutsche Forschungsgemeinschaft.
"TWA" stands for Time Weighted Average.
"IARC" stands for International Agency for Research on Cancer.
"NTP" stands for National Toxicology Program (USA).

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