

MATERIAL SAFETY DATA SHEET

 MSDS #: IC1179-0101
 Product Code: 0954A / F47-0731

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

Product Name: Canon Ink Cartridge BCI-21 Black
Product Code: 0954A / F47-0731
Manufacturer: Canon Inc.
 30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan
Supplier: Canon Singapore Pte Ltd
 1 HarbourFront Avenue, #04-01, Keppel Bay Tower, Singapore 098632
 cspl_msds@canon.com.sg
Use of the Product: Ink for Ink Jet Printer

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

< Ingredient(s) >

| Chemical Name / Generic name | CAS # / EC # | Weight % | EU Symbol/ R-Phrase | USA OSHA PEL | ACGIH TLV | EU ILV | DFG MAK |
|---------------------------------|--------------------------|-------------|----------------------------|---|--|--|-----------------------------------|
| Glycerin | 56-81-5 / 200-289-5 | 5 - 10 | None / None | (as mist) Total dust TWA = 15 mg/m ³ Respirable fraction TWA = 5 mg/m ³ | (as mist) TWA = 10 mg/m ³ | Not established | Not established |
| Ethylene glycol | 107-21-1 / 203-473-3 | 2 - 6 | Xn / R22 | Not established | (aerosol) Ceiling = 100 mg/m ³ | TWA = 20 ppm, 52 mg/m ³ STEL = 40 ppm, 104 mg/m ³ | 10 ppm, 26 mg/m ³ |
| Isopropyl alcohol | 67-63-0 / 200-661-7 | 2 - 6 | F / R11 Xi / R36 R67 | TWA = 400 ppm, 980 mg/m ³ | TWA = 400 ppm, 983 mg/m ³ STEL = 500 ppm, 1230 mg/m ³ | Not established | 200 ppm, 500 mg/m ³ |
| Ammonia derivative | Confidential | 5 - 10 | None / None | Not established | Not established | Not established | Not established |
| Water | 7732-18-5 / 231-79-12 | 60 - 80 | None / None | Not established | Not established | Not established | Not established |

< Carcinogen >

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:

Ink cartridge containing black liquid ink with slight odor.

Potential Health Effects and Symptoms:

Inhalation:

No adverse effects are expected under intended use.
 Glycerin mist may cause physical irritation and difficulty breathing.
 Over exposure to ethylene glycol and/or isopropyl alcohol may cause headache, nausea, dizziness, vomiting, drowsiness, cough and sore throat.

Ingestion:

Ingestion of glycerin, ethylene glycol and/or isopropyl alcohol may cause headache, nausea, dizziness, vomiting, drowsiness, abdominal pain, dullness and sore throat.

Eye:

May cause minimal irritation based on the animal test data of this ink.
 (See SECTION 11)

Skin:

May be no irritation and no sensitization based on the animal test data of this ink.
 (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 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 NO_x

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.

When contact, wash out immediately.

Storage:

Keep in a cool and dry place. Keep away from heat and flame.

Protect from sunlight.

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. (Also refer to 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

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance: | Black liquid |
| Odor: | Slight odor |
| pH: | 9.5 - 10.5 |
| Boiling Point/Range(°C): | Not available |
| Melting Point/Range(°C): | Not available |
| Decomposition Temperature(°C): | Not available |
| Flash Point(°C): | 49.0 (Tag.closed cup. Do not sustain combustion.) |
| Flammable (Explosive) Limits: | Not available |
| Autoignition Temperature(°C): | Not available |
| Flammability: | Classified as "Combustible liquid" under OSHA-HCS. Not classified as "flammable" or "combustible" under FHSA. Not classified as "flammable" under 1999/45/EC. |
| Explosive Properties: | None |
| Oxidizing Properties: | None |
| Vapor Pressure : | Not available |
| Vapor Density : | Not available |
| Density / Specific Gravity: | 1.04 |
| Water Solubility : | Miscible |
| Fat Solubility : | Not available |
| Partition Coefficient (n-Octanol/Water): | Not available |
| Percent Volatile (%): | 60 - 80 |
| Evaporation Rate: | Not available |
| Viscosity (mPa s): | 1.5 - 2.1 |

SECTION 10 STABILITY AND REACTIVITY

| | |
|--|--|
| Stability: | <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable |
| Conditions to Avoid: | None |
| Materials to Avoid: | Acids, bases, oxidizing materials and reducing agents |
| Hazardous Decomposition Products: | CO, CO ₂ , NO _x and Ammonia |
| Hazardous Polymerization: | <input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur |
| Conditions to Avoid: | None |

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Inhalation:

Not available

Ingestion:

Not available

Eye:

Minimal irritant, Maximum Group Mean Score = 2.7, Class 3 (rabbit)

OECD Guidelines No.405 (1987)

92/69/EEC Method B5

Skin:

Non irritant, Primary Irritation Index = 0.0 (rabbit)

OECD Guidelines No.404 (1992)

92/69/EEC Method B4

Sensitization:

Non sensitizer, Sensitization rate = 0 % (0/10) (guinea pig)

OECD Guidelines No.406 (1992)

96/54/EC Method B6

Mutagenicity:

Ames test : Negative (test strains: *S.typhimurium*)

Reproductive Toxicity:

Not available

Carcinogenicity:

Not available

Others:

Not available

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 may 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 No **Chemical name (wt%):**

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

(EEC)2455/92: Not regulated

Others: None

< USA Information >

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:

| Chemical Name | Weight % |
|------------------------------|----------|
| "Ethylene glycol" (107-21-1) | 2 - 6 |

California Proposition 65:

| Chemical Name | Weight % |
|---------------|----------|
| None | |

< Canada Information >

WHMIS Controlled Product: Not applicable (Manufactured article)

< Australia Information >

Statement of Hazardous Nature: Not classified as hazardous according to criteria of NOHSC.**SECTION 16 OTHER INFORMATION**

<R phrase list>

R11 : Highly flammable.

R22 : Harmful if swallowed.

R36 : Irritating to eyes.

R67 : Vapours may cause drowsiness and dizziness.

<Revised information from the previous version>

Entirely revised.

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
- World Health Organization International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risk of Chemicals to Humans
- DFG, List of MAK and BAT Values
- EU Directive 76/769/EEC, 67/548/EEC, 1999/45/EC
- EU Regulation (EC)2037/2000, (EEC)2455/92
- Canada Workplace Hazardous Materials Information System
- Australia National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008]

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.
EU ILV: Indicative Limit Values for Occupational Exposure under EU Directive 91/322/EEC and 2000/39/EC.
DFG MAK: MAK(Maximale Arbeitsplatzkonzentrationen) under Deutsche Forschungsgemeinschaft.
TWA: Time Weighted Average.
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).
WHMIS: Workplace Hazardous Materials Information System.
NOHSC: National Occupational Health and Safety Commission Act 1985.

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