

## MATERIAL SAFETY DATA SHEET

MSDS #: IC1178-0101

Product Code: 0899A / F45-1301

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

**Product Name:** Canon Color BJ Cartridge BC-21e  
**Product Code:** 0899A / F45-1301  
**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 <sup>3</sup> Respirable fraction TWA = 5 mg/m <sup>3</sup>	(as mist) TWA = 10 mg/m <sup>3</sup>	Not established	Not established
Thiodiglycol (Contained in cyan, magenta and yellow ink)	111-48-8 / 203-874-3	5 - 10	Xi / R36	Not established	Not established	Not established	Not established
Ethylene glycol (Contained only in black ink)	107-21-1 / 203-473-3	2 - 6	Xn / R22	Not established	(aerosol) Ceiling = 100 mg/m <sup>3</sup>	TWA = 20 ppm, 52 mg/m <sup>3</sup> STEL = 40 ppm, 104 mg/m <sup>3</sup>	10 ppm, 26 mg/m <sup>3</sup>
Copper compound (Contained only in cyan ink)	Confidential	2 - 6	None / None	Not established	Not established	Not established	Copper and its compounds Inhalable fraction 1.0 mg/m <sup>3</sup>
Isopropyl alcohol	67-63-0 / 200-661-7	2 - 6	F / R11 Xi / R36 R67	TWA = 400 ppm, 980 mg/m <sup>3</sup>	TWA = 400 ppm, 983 mg/m <sup>3</sup> STEL = 500 ppm, 1230 mg/m <sup>3</sup>	Not established	200 ppm, 500 mg/m <sup>3</sup>
C.I. Direct Yellow 173 (Contained only in yellow ink)	Not registered / 414-410-6	1 - 3	Xi / R41	Not established	Not established	Not established	Not established
C.I. Direct Violet 107 - The substance name in accordance with 67/547/EEC is stated in SECTION 16 (Contained only in magenta ink)	Not registered / 413-180-4	1 - 3	Xi / R41	Not established	Not established	Not established	Not established
Poly(oxy-1,2-ethanediyl),.alpha., .alpha.-[1,4-dimethyl-1,4-bis(2-m ethylpropyl)-2-butyne-1,4-diyl]bi s[.omega.-hydroxy- (Contained in cyan , magenta and yellow ink)	9014-85-1 / Not applicable	1 - 3	Xi / R41	Not established	Not established	Not established	Not established
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.

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**SECTION 3 HAZARDS IDENTIFICATION****EU Classification:**

Not classified as dangerous.

**Emergency Overview:**

A set of four colors ink cartridges. (Black, 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.  
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

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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:**

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

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**SECTION 5 FIRE FIGHTING MEASURES****Fire Fighting Measures:****Extinguishing Media:**CO<sub>2</sub>, 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, CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub>**Other Properties:**

None

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**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.

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**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.

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**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

<b>Appearance:</b>	Black, cyan, magenta and yellow liquid
<b>Odor:</b>	Slight odor
<b>pH:</b>	8.2 - 10.5
<b>Boiling Point/Range(°C):</b>	Not available
<b>Melting Point/Range(°C):</b>	Not available
<b>Decomposition Temperature(°C):</b>	Not available
<b>Flash Point(°C):</b>	Black : 49.0 Color : Estimate 55 - 57 (Tag.closed cup. Do not sustain combustion.)
<b>Flammable (Explosive) Limits:</b>	Not available
<b>Autoignition Temperature(°C):</b>	Black : Not available Color : Estimate 460 - 490 (ASTM-E659)
<b>Flammability:</b>	Classified as "Combustible liquid" under OSHA-HCS. Not classified as "flammable" or "combustible" under FHSA. Not classified as "flammable" under 1999/45/EC.
<b>Explosive Properties:</b>	None
<b>Oxidizing Properties:</b>	None
<b>Vapor Pressure :</b>	Not available
<b>Vapor Density :</b>	Not available
<b>Density / Specific Gravity:</b>	1.04 - 1.10
<b>Water Solubility :</b>	Miscible
<b>Fat Solubility :</b>	Not available
<b>Partition Coefficient (n-Octanol/Water):</b>	Not available
<b>Percent Volatile (%):</b>	60 - 80
<b>Evaporation Rate:</b>	Not available
<b>Viscosity (mPa s):</b>	1.5 - 2.6

### SECTION 10 STABILITY AND REACTIVITY

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

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Acute Toxicity:**

**Inhalation:**

Not available

**Ingestion:**

Not available

**Eye:**

Black : Minimal irritant, Maximum Group Mean Score = 2.7, Class 3 (rabbit)  
 Cyan : Minimal irritant, Maximum Group Mean Score = 5.3, Class 3 (rabbit)  
 Magenta : Minimal irritant, Maximum Group Mean Score = 3.3, Class 3 (rabbit)  
 OECD Guidelines No.405 (1987) & 92/69/EEC Method B5  
 Yellow : Minimal irritant, Maximum Group Mean Score = 4.0 (rabbit)  
 EPA (FIFRA) Pesticide Assessment Guideline par.81-4  
 EPA (TSCA) Federal Regulation Subpart E Sec.798.4500

**Skin:**

Black, Cyan and Magenta : Non irritant, Primary Irritation Index = 0.0 (rabbit)  
 OECD Guidelines No.404 (1992)  
 92/69/EEC Method B4  
 Yellow : Non irritant, Primary Irritation Index = 0.0 (rabbit)  
 EPA (FIFRA) Pesticide Assessment Guideline par.81-5  
 EPA (TSCA) Federal Regulation Subpart E Sec.798.4470

**Sensitization:**

Black and Magenta : Non sensitizer, Sensitization rate = 0 % (0/10) (guinea pig)  
 OECD Guidelines No.406 (1992)  
 96/54/EC Method B6  
 Cyan and Yellow : Non sensitizer, Sensitization rate = 0 % (0/10) (guinea pig)  
 OECD Guidelines No.406 (1992)  
 92/69/EEC 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**

## &lt; EU Information &gt;

**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) (Contained only in black ink)	2 - 6
"Copper Compounds" (Contained only in cyan ink) (as Cu)	2 - 6 (< 0.35)

**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**

<SECTION 2 Ingredient(s) / Substance name(s)>

"C. I. Direct Violet 107 " :

"A mixture of: sodium 5-[8-[4-[4-[7-(3,5-dicarboxylatophenylazo)-8-hydroxy-3,6-disulfonatonaphthalen-1-ylamino]-6-hydroxy-1,3,5-triazin-2-yl]-2,5-dimethylpiperazin-1-yl]-6-hydroxy-1,3,5-triazin-2-ylamino]-1-hydroxy-3,6-disulfonatonaphthalen-2-ylazo]-isophthalate; ammonium 5-[8-[4-[4-[7-(3,5-dicarboxylatophenylazo)-8-hydroxy-3,6-disulfonatonaphthalen-1-ylamino]-6-hydroxy-1,3,5-triazin-2-yl]-2,5-dimethylpiperazin-1-yl]-6-hydroxy-1,3,5-triazin-2-ylamino]-1-hydroxy-3,6-disulfonatonaphthalen-2-ylazo]-isophthalate; 5-[8-[4-[4-[7-(3,5-dicarboxylatophenylazo)-8-hydroxy-3,6-disulfonatonaphthalen-1-ylamino]-6-hydroxy-1,3,5-triazin-2-yl]-2,5-dimethylpiperazin-1-yl]-6-hydroxy-1,3,5-triazin-2-ylamino]-1-hydroxy-3,6-disulfonatonaphthalen-2-ylazo]-isophthalic acid"

<R phrase list>

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.

<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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