

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

Company Name: Canon Europa N.V.

Address: Bovenkerkerweg 59-61, 1185 XB, Amstelveen, The Netherlands

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
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 ³	TWA = 20 ppm, 52 mg/m ³ STEL = 40 ppm, 104 mg/m ³	10 ppm, 26 mg/m ³
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 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
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-ethanediy),.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.

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

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, NO_x and SO_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, cyan, magenta and yellow liquid
Odor:	Slight odor
pH:	8.2 - 10.5
Boiling Point/Range(°C):	Not available
Melting Point/Range(°C):	Not available
Decomposition Temperature(°C):	Not available
Flash Point(°C):	Black : 49.0 Color : Estimate 55 - 57 (Tag.closed cup. Do not sustain combustion.)
Flammable (Explosive) Limits:	Not available
Autoignition Temperature(°C):	Black : Not available Color : Estimate 460 - 490 (ASTM-E659)
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 - 1.10
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 - 2.6

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 , Ammonia and SO _x
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:

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**

< 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) (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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