

MATERIAL SAFETY DATA SHEET

 MSDS #: IC1230-0101
 Product Code: 0902A / F45-1311

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

Product Name: Canon Color BJ Cartridge BC-22e Photo
Product Code: 0902A / F45-1311
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_msdms@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
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
Isopropyl alcohol	67-63-0 / 200-661-7	2 - 6	F / R11 Xi / R36 R67	TWA = 400 ppm, 980 mg/m ³	TWA = 200 ppm, 492 mg/m ³ STEL = 400 ppm, 984 mg/m ³	Not established	200 ppm, 500 mg/m ³
Copper compound (Contained only in cyan ink)	Confidential	1 - 3	None / None	Not established	Not established	Not established	Copper and its compounds Inhalable fraction 1.0 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
Poly(oxy-1,2-ethanediyl) ,alpha., .alpha.-[1,4-dimethyl-1, 4-bis(2-methylpropyl)-2- butyne-1,4-diyl]bis[ome ga.-hydroxy- Ammonia derivative	9014-85-1 / Not applicable	< 2	Xi / R41	Not established	Not established	Not established	Not established
Water	7732-18-5 / 231-79-12	65 - 85	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.
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:

Black : May cause mild irritation and no sensitization.
Cyan, Magenta and Yellow : Neither irritation nor sensitization is expected.(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, 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.

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

Appearance:	Black, cyan, magenta and yellow liquid
Odor:	Slight odor
pH:	8.2 - 11.0
Boiling Point/Range(°C):	Not available
Melting Point/Range(°C):	Not available
Decomposition Temperature(°C):	Not available
Flash Point(°C):	Black : Estimate 47 - 50 , Cyan, Magenta and Yellow : Estimate 56 - 57 (Tag Closed Cup. Combustion is not sustainable.)
Flammable (Explosive) Limits:	Not available
Autoignition Temperature(°C):	Black : Not available Cyan, Magenta and Yellow : Estimate 470 - 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 (%):	65 - 85
Evaporation Rate:	Not available
Viscosity (mPa s):	1.3 - 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:

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
 Black, Cyan and Magenta : [Data of similar composition ink] Minimal irritant (rabbit)
 OECD Guidelines No.405 (1987)
 92/69/EEC Method B5

Skin:

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
 Black : [Data of similar composition ink] Non irritant (rabbit)
 Cyan and Magenta : [Data of similar composition ink] Non irritant (rabbit)
 OECD Guidelines No.404 (1992)
 92/69/EEC Method B4

Sensitization:

Yellow : Non sensitizer, Sensitization rate = 0 % (0/10) (guinea pig)
 Black, Cyan and Magenta : [Data of similar composition ink] Non sensitizer (guinea pig)
 OECD Guidelines No.406 (1992)
 92/69/EEC Method B6

Mutagenicity:

Ames test :
 Black, Cyan and Yellow : Negative (test strains: *S.typhimurium*)
 Magenta : Negative (test strains: *S.typhimurium* & *E.Coli*)

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 CONSIDERATIONS

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 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

(EC)304/2003: 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)	1 - 3 (< 0.35)

California Proposition 65:

Chemical Name	Weight %
<u>None</u>	

< 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.
- R41 : Risk of serious damage to eyes.
- R67 : Vapours may cause drowsiness or dizziness.

<Revised information from the previous version>
 Entirely revised.

Literature References:

- 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, (EC)304/2003
- 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, 2000/39/EC and 2006/15/EC.
- 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).
- WHMIS: Workplace Hazardous Materials Information System.
- NOHSC: National Occupational Health and Safety Commission.

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