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MATERIAL SAFETY DATA SHEET

MSDS #: IC1168-0202 Product Code: 4612A / F45-2081

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE

COMPANY/UNDERTAKING

Product Name: Canon Color BJ Cartridge BC-34e Photo

Product Code: 4612A / F45-2081

Manufacturer: Canon Inc., 30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo, Japan, Phon e# 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

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

<	Ingredient(S) >

< 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 (Contained in black, cyan and magenta 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
Diethylene glycol	111-46-6 / 203-872-2	2 - 6	Xn / R22	Not established	Not established	Not established	10 ppm, 44 mg/m ³
Copper, [29H,31H-phthalocyaninato(2-) -N29,N30,N31,N32]-, aminosulfonyl sulfo derivs., sodium salts (Contained only in cyan ink)	90295-11-7 / 291-001-7	1 - 3	Xi / R36	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	1 - 3	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
Quinoline derivative (Contained only in magenta ink)	Confidential	1 - 3	Xi / R36	Not established	Not established	Not established	Not established
Tetralithium 6-amino-4-hydroxy-3-[7-sulfonato -4-(5-sulfonato-2-naphthylazo)-1- naphthylazo]naphthalene-2,7-disu Ifonate (Contained only in black ink)	107246-80-0 / 403-660-1	1 - 3	N / R51/53	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

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< 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, Cyan and Yellow: May cause mild irritation and no sensitization.

Magenta: 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

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SECTION 5 FIRE FIG.	HTING MEASURES
Fire Fighting Measures:	
Extinguishing Media:	
CO_2 , water, foam or dry	y chemicals
Unsuitable Extinguishing	Media:
None	
Special Fire Fighting Pro None	ocedures:
Unusual Fire and Explosion	on Hazards:
Fire and Explosive Properties	s (See also Section 9).
Hazardous Combustion P	
CO, CO, and NOx	
Other Properties:	
None	
SECTION 6 ACCIDEN	VTAL RELEASE MEASURES
	NIAL RELEASE MEASURES
Personal Precautions:	and deline
Avoid contact with skin, e	eyes and clotning.
Environmental Precautions:	urface water or ground water.
Method for Cleaning Up:	urrace water of ground water.
Wipe off with wet cloth or	' naper
wipe off with wet cloth of	paper.
SECTION 7 HANDLIN	NG AND STORAGE
Handling:	
Use with adequate ventila	
Use with adequate ventila Avoid contact with skin, e	eyes and clothing.
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or	
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage:	eyes and clothing. ut the contaminated area immediately.
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage: Keep in a cool and dry pla	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight.
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and f	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame.
Use with adequate ventila Avoid contact with skin, of In case of contact, wash of Storage: Keep in a cool and dry pla Keep away from heat and to Keep out of the reach of cool	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame.
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and f	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame.
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and f Keep out of the reach of col Specific Uses: Ink for Ink Jet Printer.	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame.
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and t Keep out of the reach of co Specific Uses: Ink for Ink Jet Printer. For more information, plea	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product.
Use with adequate ventila Avoid contact with skin, of In case of contact, wash of Storage: Keep in a cool and dry plate Keep away from heat and for Keep out of the reach of color Specific Uses: Ink for Ink Jet Printer. For more information, please. SECTION 8 EXPOSURE.	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame. hildren.
Use with adequate ventila Avoid contact with skin, of In case of contact, wash of Storage: Keep in a cool and dry plate Keep away from heat and for Keep out of the reach of color Specific Uses: Ink for Ink Jet Printer. For more information, please SECTION 8 EXPOSURE. Exposure Guidelines:	eyes and clothing. that the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and t Keep out of the reach of co Specific Uses: Ink for Ink Jet Printer. For more information, ples SECTION 8 EXPOSUS Exposure Guidelines: Not established for this ink	eyes and clothing. that the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION
Use with adequate ventila Avoid contact with skin, of In case of contact, wash of Storage: Keep in a cool and dry plate Keep away from heat and for Keep out of the reach of color Specific Uses: Ink for Ink Jet Printer. For more information, please SECTION 8 EXPOSURE. Exposure Guidelines:	eyes and clothing. that the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION
Use with adequate ventila Avoid contact with skin, e In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and t Keep out of the reach of co Specific Uses: Ink for Ink Jet Printer. For more information, ples SECTION 8 EXPOSUS Exposure Guidelines: Not established for this ink Engineering Controls: Use adequate ventilation.	eyes and clothing. the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION c. (See also SECTION 2)
Use with adequate ventila Avoid contact with skin, or In case of contact, wash or Storage: Keep in a cool and dry plate Keep away from heat and to Keep out of the reach of comparison of the second	eyes and clothing. the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION c. (See also SECTION 2)
Use with adequate ventila Avoid contact with skin, or In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and in Keep out of the reach of cool Specific Uses: Ink for Ink Jet Printer. For more information, please SECTION 8 EXPOSURE Exposure Guidelines: Not established for this ink Engineering Controls: Use adequate ventilation. Personal Protection Equipment Respiratory Protection:	eyes and clothing. the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION c. (See also SECTION 2)
Use with adequate ventila Avoid contact with skin, or In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and in Keep out of the reach of cool Specific Uses: Ink for Ink Jet Printer. For more information, please SECTION 8 EXPOSURE Exposure Guidelines: Not established for this ink Engineering Controls: Use adequate ventilation. Personal Protection Equipment Respiratory Protection:	eyes and clothing. the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION c. (See also SECTION 2) ent(s): Required
Use with adequate ventila Avoid contact with skin, or In case of contact, wash or Storage: Keep in a cool and dry plate Keep away from heat and to Keep out of the reach of common street Specific Uses: Ink for Ink Jet Printer. For more information, please Exposure Guidelines: Not established for this ink Engineering Controls: Use adequate ventilation. Personal Protection Equipment Respiratory Protection: Eye/Face Protection:	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame. hildren. asse refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION c. (See also SECTION 2) ent(s): Required Not Required
Use with adequate ventila Avoid contact with skin, or In case of contact, wash or Storage: Keep in a cool and dry pla Keep away from heat and for Keep out of the reach of col Specific Uses: Ink for Ink Jet Printer. For more information, please SECTION 8 EXPOSUS Exposure Guidelines: Not established for this ink Engineering Controls: Use adequate ventilation. Personal Protection Equipment Respiratory Protection: Eye/Face Protection:	eyes and clothing. ut the contaminated area immediately. ce. Protect from sunlight. flame. hildren. ase refer to the instruction of this product. RE CONTROLS / PERSONAL PROTECTION c. (See also SECTION 2) ent(s): Required Not Required Required Required

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MATERIAL SAFETY DATA SHEET

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CECCUTON A DITTION OF A LAND COM	THE WAY DO OPENING			
SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES				
Appearance:	Black, cyan, magenta and yellow liquid			
Odor:	Slight odor			
pH:	8.1 - 10.3			
Boiling Point/Range(${}^{\circ}$ C):	Not available			
Melting Point/Range($^{\circ}$ C):	Not available			
Decomposition Temperature (°C):	Not available			
Flash Point(°C):	Estimate: 55 -57 (Tag Closed Cup. Combustion is not sustainable.)			
Flammable (Explosive) Limits:	Not available			
Autoignition Temperature ($^{\circ}$ 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 - 1.10			
Water Solubility :	Miscible			
Fat Solubility:	Not available			
$\label{partition} \textbf{Partition Coefficient (n-Octanol/Water):}$	Not available			
Percent Volatile (%):	60 - 80			
Evaporation Rate:	Not available			
Viscosity (mPa s):	1.6 - 2.5			
SECTION 10 STABILITY AND REA	ACTIVITY			
Stability:				
Conditions to Avoid:	None			
Materials to Avoid:	Acids, bases, oxidizing materials and reducing agents			
Hazardous Decomposition Products:	CO, CO ₂ , NOx and Ammonia			
Hazardous Polymerization:	☐ May Occur ☑ Will Not Occur			
Conditions to Avoid:	None			

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SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity:

Inhalation:

Not available

Ingestion:

Black and Cyan : Estimated $LD_{50} > 2500$ mg/kg, 0/6 mortalities at 2000 mg/kg (rat) Magenta : [Data of similar composition ink] Estimated $LD_{50} > 2500$ mg/kg (rat)

OECD Guidelines No.423 (1996) 96/54/EC Method B1 tris

Yellow: Not available

Eye:

Black : Minimal irritant, Maximum Group Mean Score = 3.3, Class 3 (rabbit) Cyan : Minimal irritant, Maximum Group Mean Score = 5.3, Class 3 (rabbit) Yellow : Minimal irritant, Maximum Group Mean Score = 4.7, Class 3 (rabbit)

Magenta: [Data of similar composition ink] Minimal irritant (rabbit)

OECD Guidelines No.405 (1987)

92/69/EEC Method B5

Skin:

$$\begin{split} & Black: Mild irritant, Primary Irritation Index = 0.7 \ (rabbit) \\ & Cyan: Mild irritant, Primary Irritation Index = 1.8 \ (rabbit) \\ & Yellow: Mild irritant, Primary Irritation Index = 0.2 \ (rabbit) \\ & Magenta: [Data of similar composition ink] Non irritant (rabbit) \end{split}$$

OECD Guidelines No.404 (1992)

92/69/EEC Method B4

Sensitization:

Black and Cyan : Non sensitizer, Sensitization rate = 0 % (0/9) (guinea pig)

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

Magenta: [Data of similar composition ink] Non sensitizer (guinea pig)

OECD Guidelines No.406 (1992)

96/54/EC Method B6

Mutagenicity:

Ames test:

All colors: Negative (test strains: S.typhimurium & E.Coli)

Reproductive Toxicity:

Not available

Carcinogenicity:

Not available

Others:

Not available

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Canon

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SECTION 12	ECOLOGICAL INFORMATION
Mobility:	Not available
Persistence / Degradability:	Not available
Bioaccumulation:	Not available
Ecotoxicity:	Tetralithium 6-amino-4-hydroxy-3-[7-sulfonato-4-(5-sulfonato-2-naphthylazo)-1-naphthylazo] naphthalene-2,7-disulfonate (107246-80-0): Fish, Acute Toxicity Test: 96 Hour LC50 560-1000 mg/l, NOEC 560 mg/l (Cyprinus Carpio) OECD Guideline No. 203(1984) & 84/449/EEC Method C1 Daphnia sp., Acute Immobilization Test: 24 Hour EC50 560-1000 mg/l, NOEC 560 mg/l (Daphnia magna) OECD Guideline No.202 (1984) & 84/449/EEC Method C2 Daphnia sp., Acute Reproduction Test: 19-Day NOEC 5.6 mg/l, LOEC 18 mg/l (Daphnia magna) OECD Guideline No.202 (1984) NOEC: No Observed Effect Concentration, LOEC: Lowest Observed Effect Concentration
Other Adverse Effec	Not available
Method of Disposal:	DISPOSAL CONSIDERATION 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 Chemical name (wt%): ☑ No
Special Precautions	: None
SECTION 15 < EU Information >	REGULATORY INFORMATION
Information on the L	abel:
Symbol & Indica	tion: Not required
R-Phrase: Not required	
S-Phrase: Not required	
Dangerous Com None	ponent(s):
Special Precauti Not required	ons under 1999/45/EC Annex V:
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

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MSDS #: IC1168-0202 Product Code: 4612A / F45-2081

< 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 NameWeight %"Ethylene glycol" (107-21-1) (Contained in black, cyan and magenta ink)2 - 6"Copper Compounds" (Contained only in cyan ink)1 - 3(as Cu)(<0.35)</td>

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 or dizziness.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<Revised information from the previous version>

Section 2, 3, 4, 7, 8, 11 and 13





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MSDS #: IC1168-0202 Product Code: 4612A / F45-2081

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, (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 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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