

**MATERIAL SAFETY DATA SHEET**

 MSDS #: IC1167-0202  
 Product Code: 4609A / F45-2051

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

**Product Name:** Canon Color BJ Cartridge BC-31e  
**Product Code:** 4609A / F45-2051  
**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 <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
Ethylene glycol (Contained in cyan and magenta 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>
Diethylene glycol	111-46-6 / 203-872-2	2 - 6	Xn / R22	Not established	Not established	Not established	10 ppm, 44 mg/m <sup>3</sup>
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	2 - 6	Xi / R36	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	1 - 3	F / R11 Xi / R36 R67	TWA = 400 ppm, 980 mg/m <sup>3</sup>	TWA = 200 ppm, 492 mg/m <sup>3</sup> STEL = 400 ppm, 984 mg/m <sup>3</sup>	Not established	200 ppm, 500 mg/m <sup>3</sup>
Quinoline derivative (Contained only in magenta ink)	Confidential	1 - 3	Xi / R36	Not established	Not established	Not established	Not established
Triazine derivative (Contained only in magenta ink)	Confidential	1 - 3	Xi / R36 R52/53	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

< 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 three colors ink cartridges. (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:**

May cause mild irritation and no sensitization. (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:**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> and NO<sub>x</sub>**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

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**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Cyan, magenta and yellow liquid
<b>Odor:</b>	Slight odor
<b>pH:</b>	8.1 - 10.4
<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>	Estimate : 55 -57 (Tag Closed Cup. Combustion is not sustainable.)
<b>Flammable (Explosive) Limits:</b>	Not available
<b>Autoignition Temperature(°C):</b>	Not available
<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>	1.9 - 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> and Ammonia
<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:**

Cyan : Estimated LD<sub>50</sub> > 2500 mg/kg, 0/6 mortalities at 2000 mg/kg (rat)  
 Magenta : [Data of similar composition ink] Estimated LD<sub>50</sub> > 2500 mg/kg (rat)  
 OECD Guidelines No.423 (1996)  
 96/54/EC Method B1 tris

Yellow : Not available

**Eye:**

Cyan : Minimal irritant, Maximum Group Mean Score = 6.0, 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:**

Cyan : Mild irritant, Primary Irritation Index = 1.8 (rabbit)  
 Yellow : Mild irritant, Primary Irritation Index = 0.2 (rabbit)  
 Magenta : [Data of similar composition ink] Mild irritant (rabbit)  
 OECD Guidelines No.404 (1992)  
 92/69/EEC Method B4

**Sensitization:**

Cyan and 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*)  
  
 Chromosome aberration test :  
 Magenta : Negative (test strains: *Human peripheral blood lymphocytes*)  
 Cyan and Yellow : Not available

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

**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

## &lt; USA Information &gt;

**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:**

<b>Chemical Name</b>	<b>Weight %</b>
"Ethylene glycol" (107-21-1) (Contained in cyan and magenta ink)	2 - 6
"Copper Compounds" (Contained only in cyan ink) (as Cu)	2 - 6 (<0.35)

**California Proposition 65:**

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

## &lt; Canada Information &gt;

**WHMIS Controlled Product:** Not applicable (Manufactured article)

## &lt; Australia Information &gt;

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

&lt;R phrase list&gt;

R11 : Highly flammable.

R22 : Harmful if swallowed.

R36 : Irritating to eyes.

R67 : Vapours may cause drowsiness or dizziness.

R52/53 : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

&lt;Revised information from the previous version&gt;

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

**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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