
MATERIAL SAFETY DATA SHEET

DATE PREPARED: 18th February 2000

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**1.1 Identification of the Substance or Preparation**

Product Name: BC-34 for Bubble Jet Printer

Description: BJ Cartridge for BJC3000

1.2 Company Undertaking Identification

Manufacturer: Canon Inc.
30-2, Shimomaruko
30 Chome, Ohta-Ku, Tokyo, 146-8501
Japan
Phone: 03-3758-2111

Distributor: Canon (UK) Limited
Woodhatch
Reigate
Surrey
Telephone: (01737) 220000

SECTION 2: COMPOSITION/INFORMATION OF INGREDIENTS

Principal Components	Wt%	CAS #	EU Symbol	EU R-Phrase	DFG MAK
Diethylene Glycol	<7	111-46-6	Xn	R22	10ppm, 44mg/m ³
Glycerin	<8	56-81-5	None	None	Not established
Water	60-80	-	-	-	-
Ethylene glycol	<9	107-21-1	Xn	R22	10ppm, 26mg/m ³
Isopropyl alcohol	<3	67-63-0	Xi	R36, 67	200ppm 500mg/m ³
Ammonia derivative	<8	-	-	-	-
Glycol	<8	-	-	-	-

All MSDS sheets have been updated to appear in the current 16 paragraph format (previously nine), information requested for the new format which isn't available from the previous format will have No Data Available against it. (As advised by Sedgwick Risk Consultants. Memo dated 28/02/97).

SECTION 3. HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW:

A set of four colours ink cartridge (black, Cyan, magenta and yellow). All the ink is liquid mixture with slight odour. Vapour or mist may cause respiratory tract and eye irritation. Harmful if swallowed.

POTENTIAL HEALTH EFFECTS AND SYMPTOMS:

INGESTION:

Ingestion to isopropyl alcohol, ethylene glycol, diethylene glycol and/or glycerin may cause headache, nausea, dizziness, vomiting, drowsiness, abdominal pain and dullness.

INHALATION:

No adverse effects are expected under normal use. Over exposure to isopropyl alcohol, ethylene glycol and/or diethylene glycol may cause headache, nausea, dizziness, vomiting, drowsiness, cough and sore throat. Glycerin mist may cause physical irritation and difficulty breathing.

EYE CONTACT:

Cyan and Magenta: May cause minimal irritant based on the animal test data of similar composition ink

Black and Yellow: May cause minimal irritant based on the animal test data. (See Section 11).

SKIN CONTACT:

Cyan and Magenta: May cause mild irritant and no sensitisation based on the animal test data similar composition ink.

Black and Yellow: May cause minimal irritant and no sensitisation based on the animal test data. (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:

If victim is conscious and alert, give one or two cupfuls of water. If irritation or discomfort occurs, obtain medical advice immediately.

EYE CONTACT:	Immediately flush with water for 5 minutes. If irritation persists, obtain medical advice immediately.
SKIN CONTACT:	Wash with water and soap or mild detergent. If irritation persist, get medical attention.
Note to Physicians:	None.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING MEASURES:	
EXTINGUISHING MEDIA:	CO ₂ , water, foam or dry chemicals
UNSUITABLE EXTINGUISHING MEDIA:	None.
SPECIAL FIRE FIGHTING PROCEDURE:	None.
UNUSUAL FIRE AND EXPLOSIVE HAZARDS:	None.
FIRE AND EXPLOSIVE PROPERTIES:	
FLASH POINT(°C):	Black: 56.0 / Cyan: 56.5 / Magenta: 56.0 / Yellow: 56.5 (Tag closed cup: do not sustain combustion).
FLAMMABLE (EXPLOSIVE) LIMITS:	No data available.
AUTO-IGNITION TEMPERATURE (°C):	No data available.
FLAMMABILITY:	Classified as 'non-flammable' under 88/379/EEC(EU) and FHSA(USA) and 'combustible liquid' under OSHA-HCS(USA).
AUTO-FLAMMABILITY:	None.
EXPLOSIVE PROPERTIES:	None.
OXIDISING PROPERTIES:	None.
HAZARDOUS COMBUSTION PRODUCTS:	CO ₂ , CO and NO _x
OTHER PROPERTIES:	None.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Avoid contact with skin, eyes and clothing.
ENVIRONMENTAL PRECAUTIONS:	Do not release into sewer, surface water or ground water.
METHOD FOR CLEANING UP:	Wipe off with wet cloth or paper.

SECTION 7. HANDLING AND STORAGE

HANDLING:	Avoid contact with skin, eyes and clothing. When contact, wash out immediately.
STORAGE:	Keep out of the reach of children. Store in cool and dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Glycerin: (as mist)
Total dust: TWA = 15mg/m³
Respirable fraction: TWA = 5mg/m³
ACGIH TLV:
TWA=10mg/m³

Diethylene glycol::

Not established

Ethylene glycol:

USA OSHA:

Not established.

(aerosol) Ceiling 100 mg/m³

Isopropyl alcohol:

USA OSHA PEL

TWA = 400ppm, 980 mg/m³

ACGIH TLV

TWA=400ppm, 983 mg/m³

STEL = 500ppm, 1230 mg/m³

(Also refer to Section 2).

ENGINEERING CONTROLS:

Not established for this material. (See Section 2).

PERSONAL PROTECTION EQUIPMENT(S):

RESPIRATORY PROTECTION:

Not Required.

EYE/FACE PROTECTION:

Not Required.

SKIN PROTECTION:

Not Required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:

Black, Cyan, Magenta and Yellow liquid.

ODOUR:

Slight odour.

PH:

9-11

BOILING POINT/RANGE (°C):

No data available.

MELTING POINT/RANGE (°C):

No data available.

DECOMPOSITION TEMPERATURE (°C):

No data available.

FLASH POINT (°C):

Black: 56.0 / Cyan: 56.5 / Magenta: 56.0 / Yellow: 56.5 (Tag. Closed cup. Do not sustain combustion).

FLAMMABLE (EXPLOSIVE) LIMITS:

No data available.

AUTOIGNITION TEMPERATURE (°C):

No data available.

FLAMMABILITY:

Classified as 'non-flammable' under 88/379/EEC(EU) and FHSA(USA) and 'combustible liquid' under OSHA-HCS (USA).

AUTOFLAMMABILITY:

None.

EXPLOSIVE PROPERTIES:

None.

OXIDISING PROPERTIES:

None.

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VAPOUR PRESSURE:	No data available.
VAPOUR DENSITY (Air=1):	No data available.
DENSITY/SPECIFIC GRAVITY:	1.05 – 1.06
WATER SOLUBILITY:	Miscible.
FAT SOLUBILITY:	No data available.
PARTITION COEFFICIENT (N-OCTANOL/WATER):	No data available.
PERCENT VOLATILE:	60-80%
EVAPORATION RATE:	No data available.

SECTION 10. STABILITY AND REACTIVITY

STABILITY:	Stable.
CONDITIONS TO AVOID:	None.
MATERIALS TO AVOID:	None.
HAZARDOUS DECOMPOSITION PRODUCTS:	CO, CO ₂ , NO _x and Ammonia.
HAZARDOUS POLYMERISATION:	Will not occur.
CONDITIONS TO AVOID:	None.

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

INHALATION:	No data available
INGESTION:	No data available.
EYE CONTACT:	Cyan and Magenta: Estimate: Minimal irritant (rabbit). Black and Yellow: Minimal irritant; Maximum Group Mean Score = 6.7, Class 3 (rabbit). OECD Guidelines No. 405. Commission Directive 92/69/EEC Method B5.
SKIN CONTACT:	Cyan and Magenta: Estimate: Mild irritant; (rabbit) Black: Mild irritant; Primary Irritation Index (PII)=1.5 (rabbit) Yellow: Mild irritant; Primary Irritation (PII)=1.3 (rabbit). OECD Guidelines No. 404. Commission Directive 92/69/EEC Method B4.
SENSITISATION:	Cyan and Megenta: Estimate: Non sensitiser (guinea pig). Black and Yellow: Non sensitiser, Sensitisation rate=0% (0/10) (guinea pig). OECD Guidelines No. 406. Commission Directive 92/69/EEC. Method B6.

MUTAGENICITY:	Ames test: Negative (test strains: S. typhimurium)
REPRODUCTIVE TOXICITY:	No data available.
CARCINOGENICITY:	No human carcinogen or potential carcinogen, according to ACGIH, DFG, IARC Monographs, NTP and OSHA (USA) regulation and EC Directive (Annex I to Directive 67/548/EEC).
OTHERS:	None.

SECTION 12. ECOLOGICAL INFORMATION

No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

METHOD OF DISPOSAL:	Disposal may be subject to federal, state or local laws.
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SECTION 14. TRANSPORT INFORMATION

UN#:	None.
UN SHIPPING NAME:	None.
UN CLASSIFICATION:	None.
UN PACKING GROUP:	None.
SPECIAL PRECAUTION:	None.

SECTION 15. REGULATORY INFORMATION

EU INFORMATION

INFORMATION ON THE LABEL:

SYMBOL AND INDICATION:	Not required.
RISK PHRASE:	Not required.
S-PHRASE:	Not required.
DANGEROUS INGREDIENTS:	None.

Specific provisions in relation to protection of man or the environment.

76/769/EEC:	Not regulated.
(EC)3093/94:	Not regulated.
(EEC) 2455/92:	Not regulated.
OTHERS:	None.

USA Information:

Information on the Label:

Signal Word:	None.
Hazard warning:	None.
Safety Advice:	None.

Revision Date:

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Hazardous Component(s): None.

SARA Title III §313:

Chemical Name	Weight %
Ethylene glycol (107-21-1)	<9
Copper compounds (contained only in Cyan ink)	<2
As copper metal	<0.2

California Proposition 65:

Chemical Name	Weight %
None	

SECTION 16. OTHER INFORMATION

Literature Reference:

- U.S. Department of Labour, 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 Organisation 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, 88/379/EEC and their amendments.
- EU Regulation (EC) 3093/94, (EEC)2455/92 and their amendments.

Other Information:

None

ABBREVIATIONS:

"EU" stands for European Union.
 'OSHA PEL' stands for PEL (Permissible Exposure Limit) under Occupational Safety and Health Administration.
 "ACGIH TLV" stands for TLV (Threshold Limit Value) under American Conference of Governmental Industrial Hygienists.
 "IARC" stands for International Agency for Research on Cancer.
 "NTP" stands for National Toxicology Program (USA).
 'EU ILV' stands for Indicative Limit Values for Occupational Exposure under EU Directive 91/322/EEC.
 "DFG MAK" stands for MAK (Maximale Arbeitsplatzkonzentrationen) under Deutsche Forschungsgemeinschaft
 'TWA' stands for Time Weighted Average.

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