

MATERIAL SAFETY DATA SHEETDATE PREPARED: 20th June 2000**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****1.1 Identification of the Substance or Preparation**

Product Name: BJ Cartridge BCI-3eC
 Description: Ink Cartridge for S400, S450, S4500, S600 & MPC100

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, RH2 8BF
 Telephone: (01737) 220000

SECTION 2: COMPOSITION/INFORMATION OF INGREDIENTS

Principal Components	Wt%	CAS #	EU Symbol	EU R-Phrase	DFG MAK
Glycerin	<9	56-81-5	None	None	Not established
Diethylene glycol	<4	111-46-6	Xn	R22	TWA=10ppm, 44mg/m ³
Ethylene glycol	<6	107-21-1	Xn	R22	TWA=10ppm, 26mg/m ³
Isopropyl alcohol	<3	67-63-0	Xi	R36,67	TWA=200ppm, 500mg/m ³
Copper Compound (Contained only in Cyan ink)	-	<5	None	None	1.0mg/m ³ Copper and its compound (Inhalable fraction)
Water	60-80	-	-	-	-
Ammonia derivative	<11	-	-	-	-

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:

Ink Tank containing cyan liquid with slight odour. Combustible liquid and vapour. Vapour or mist may cause respiratory tract and eye irritation.

POTENTIAL HEALTH EFFECTS AND SYMPTOMS:

INGESTION:

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

INHALATION:

No adverse effects are expected under intended 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:

Black & cyan: May cause minimal irritation based on the animal test data of similar composition ink. Magenta & yellow: May cause minimal irritation based on the animal test data. (see Section 11).

SKIN CONTACT:

Black & Cyan: May be no irritation and no sensitisation based on the animal test data of similar composition ink.

Magenta: May cause mild irritation based on the animal test data.

yellow: May cause mild irritation and no sensitisation based on the animal test data of similar composition ink.

(See Section 11)

Not identified.

Chronic Effects:

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 CONTACT:

Immediately flush with water for 5 minutes or until the chemical is removed. If irritation persists, obtain medical attention.

SKIN CONTACT:

Wash with water and soap or mild detergent. If irritation persists, get medical attention.

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 PROCEDURE:

None.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS:

None.

FIRE AND EXPLOSIVE PROPERTIES:

FLASH POINT(°C):

55.0 (Tag closed cup. Do not sustain combustion).

FLAMMABLE (EXPLOSIVE) LIMITS:

Not available.

AUTO-IGNITION TEMPERATURE (°C):

Not available.

FLAMMABILITY:

Classified as 'Combustible liquid' under OSHA-HCS(USA), 'Not flammable' under FHSA(USA) and 88/379/EEC(EU).

AUTO-FLAMMABILITY:

None.

EXPLOSIVE PROPERTIES:

None.

OXIDISING PROPERTIES:

None.

HAZARDOUS COMBUSTION PRODUCTS:

CO₂, 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 breathing mist. Avoid contact with skin, eyes and clothing. When contact, wash out immediately. Use with adequate ventilation.

STORAGE:

Keep out of the reach of children. Store in cool and dry place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES:

GLYERIN:

USA OSHA (TWA/PEL):

TWA=15mg/m³ (Total dust)

TWA=5mg/m³ (Respirable fraction)

ACGIH TLV:

TWA=10mg/m³ (aerosol)

ETHYLENE GLYCOL:

USA OSHA (TWA/PEL):

Not established

ACGIH TLV:

Ceiling=100mg/m³ (as mist)

EU ILV:

TWA=20ppm, 52mg/m³

STEL=40ppm, 104mg/m³

ISOPROPYL ALCOHOL:

USA OSHA (TWA/PEL):

TWA=400mg/m³ (Total dust)

TWA=980mg/m³ (Respirable fraction)

ACGIH TLV:

TWA=400ppm, 983mg/m³

STEL=500ppm, 1230mg/m³

(Also refer to Section 2).

ENGINEERING CONTROLS:

Use adequate ventilation to keep airborne concentrations below the exposure limit (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:

Cyan Liquid.

ODOUR:

Slight odour.

PH:

9.5-10.5

BOILING POINT/RANGE (°C):

Not available.

MELTING POINT/RANGE (°C):

Not available.

DECOMPOSITION TEMPERATURE (°C):	Not available.
FLASH POINT (°C):	55.0 (Tag closed cup. Do not sustain combustion).
FLAMMABLE (EXPLOSIVE) LIMITS:	Not available.
AUTOIGNITION TEMPERATURE (°C):	Not available.
FLAMMABILITY:	Classified as 'Combustible liquid' under OHSA-HCS(USA), 'Not flammable' under FHSA(USA) and 88/379/EEC(EU).
AUTOFLAMMABILITY:	None.
EXPLOSIVE PROPERTIES:	None.
OXIDISING PROPERTIES:	None.
VAPOUR PRESSURE:	Not available.
VAPOUR DENSITY (Air=1):	Not available.
DENSITY/SPECIFIC GRAVITY:	Not available.
WATER SOLUBILITY:	Miscible.
FAT SOLUBILITY:	Not available.
PARTITION COEFFICIENT (N-OCTANOL/WATER):	Not available.
PERCENT VOLATILE:	60-80%
EVAPORATION RATE:	Not available.

SECTION 10. STABILITY AND REACTIVITY

STABILITY:	Stable.
CONDITIONS TO AVOID:	None.
MATERIALS TO AVOID:	Acids, bases, oxidising materials and reducing agents.
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:	Not available.
INGESTION:	Estimated LD ₅₀ >2500mg/kg, 0/6 mortalities at 2000mg/kg (rat). OECD Guidelines No. 423 'Acute Oral Toxicity-Acute Toxic Class Method'. Commission Directive 96/54/EC Method B1 tris.
EYE CONTACT:	Minimal irritant, Maximum Group Mean Score=6.0, Class 3 (rabbit). OECD Guidelines No. 405 'Acute Eye Irritation/Corrosion'. Commission Directive 92/69/EEC Method B5.

SKIN CONTACT:	Mild irritant, Primary Irritation Index=1.8 (rabbit). OECD Guidelines No.404 'Acute Dermal Irritation/Corrosion'. Commission Directive 92/69/EEC Method B4.
SENSITISATION:	Non sensitiser, sensitisation rate=0%(1/10) (guinea pig). OECD Guidelines No. 406 'Skin Sensitisation'. Commission Directive 96/54/EC Method B6.
MUTAGENICITY:	Ames test: Negative (test strains S. typhimurium & E. Coli).
REPRODUCTIVE TOXICITY:	Not available.
CARCINOGENICITY:	No component of this ink is listed as human carcinogens or potential carcinogens in IARC Monographs, NTP, OSHA(USA) regulations or Annex I to Directive 67/548/EEC.
OTHERS:	None

SECTION 12. ECOLOGICAL INFORMATION

No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

METHOD OF DISPOSAL:	Disposal should 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.
Hazardous Component(s):	Glycerin (56-81-5) <9% Diethylene glycol (111-46-6) <4% Ethylene glycol (107-21-1) <6% Isopropyl alcohol (67-63-0) <3% Copper Compound <5%

SARA Title III \$313:

Chemical Name	Weight %
Ethylene glycol (107-21-1)	<6
Copper compound (contained only in cyan)	<2
As Copper Metal	<0.35

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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