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# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	LC01C	LC02C	LC04C
Product Code	LK0119001	LK0097001	LK0212001
Product Name	LC50C		
Product Code	LK0309001		
Other Designation	Ink cartridge for the ink-jet printing machine		

This product is water based ink in cartridge. Ink volume in each cartridge is approximately 12cc. All components in ink are listed on EPA TSCA inventory. All components in ink are listed on EINECS inventory or ELINCS inventory. All components in ink are listed on DSL inventory. All components in ink are listed on AICS inventory.

Ink manufacturer BROTHER INDUSTRIES, LTD.

5-1, Hamada-cho, Minami-ku, Nagoya 457-0822, JAPAN

Telephone Number for Information +81-52-824-3445

Importer  
in USA BROTHER INTERNATIONAL CORPORATION  
100 Somerset Corporate Boulevard, P.O.Box 6911, Bridgewater,  
NJ 08807-0911, USA  
Telephone Number for Information +1-800-284-4329  
Emergency Telephone Number +1-800-284-4329

Importer  
in Europe BROTHER INTERNATIONAL EUROPE LTD.  
Brother house, 1 Tame Street, Guide Bridge, Audenshaw, Manchester  
M34 5JE, UK  
Telephone Number for Information +44-161-330-6531  
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Importer  
in Canada BROTHER INTERNATIONAL CORP. (Canada) LTD.  
1 rue Hôtel de Ville, Dollard-des-Ormeaux, Québec, H9B 3H6, CANADA  
Telephone Number for Information +1-514-685-0600  
Emergency Telephone Number +1-514-685-0600

Importer  
in Australia BROTHER INTERNATIONAL (AUST.) PTY. LTD. ACN 001 393 835  
7 Khartoum Road, North Ryde, N.S.W. 2113 08875-6714, AUSTRALIA  
Telephone Number for Information +61-2-9887-4344  
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Date of Preparation: March 31, 2000 MSDS #BYC003

Date of Revision: February 2, 2006

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

**HAZARDOUS INGREDIENTS** in accordance with Hazard Communication Standard issued by Occupational Safety and Health Administration (OSHA HCS).

<u>INGREDIENT NAME</u> <u>CAS#</u>	<u>EXPOSURE LIMITS</u>	<u>% by weight</u>
Glycerol 56-81-5	OSHA PEL : (as mist) Total dust TWA 10mg/m <sup>3</sup> Respirable fraction TWA 5mg/m <sup>3</sup> ACGIH TLV : (as mist) Total dust TWA 10mg/m <sup>3</sup>	<30

Remaining ingredients are considered non-hazardous in accordance with OSHA HCS.

**HAZARDOUS INGREDIENTS** in accordance with EU Directive 67/548/EEC and Approved Criteria of Worksafe Australia.

<u>INGREDIENT NAME</u> <u>CAS#</u>	<u>EEC#</u>	<u>% by weight</u>	<u>Symbol</u>	<u>R phrases</u>
Triethylene glycol monobutyl ether 143-22-6	205-592-6	< 10	Xi	R41
1,2-Benzisothiazolin-3-one 2634-33-5	220-120-9	< 0.05	Xn, N	R22, R38 R41, R43, R50

EU Hazard Symbols :  
Xn : Harmful  
Xi : Irritant  
N : Dangerous for the environment

EU Risk(R) Phrase definitions :  
R22 : Harmful if swallowed.  
R38 : Irritant to skin.  
R41 : Risk of serious damage to eyes.  
R43 : May cause sensitization by skin contact.  
R50 : Very toxic to aquatic organisms.

Remaining ingredients are considered non-hazardous in accordance with the latest EU Directive 67/548/EEC and Approved Criteria of Worksafe Australia.

**3. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

Ink in cartridge is dark blue liquid with slight odor.  
Keep out of reach of children.  
Ink poses little or no immediate hazard if spilled.

**POTENTIAL HEALTH EFFECTS**

EYE CONTACT : Ink may cause slight irritation.  
SKIN CONTACT : Prolonged exposure to ink may cause irritation.  
INGESTION : Ink may cause gastrointestinal or other adverse effects.  
INHALATION : Not expected to be a route of exposure under normal use.



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**CHRONIC EFFECTS / CARCINOGENICITY :**

Specific data are not available. All ingredients of ink have not been classified as carcinogens according to IARC monographs, NTP, and OSHA regulated.

**4. FIRST AID MEASURES**

EYE CONTACT : Flush immediately with running water for at least 15 minutes.  
SKIN CONTACT : Wash with water and soap.  
INGESTION : Dilute with water and get medical attention.  
INHALATION : Not an expected route of entry.

**5. FIRE FIGHTING MEASURES**

AUTOIGNITION TEMPERATURE : 445°C  
FLAMMABLE LIMITS : LEL : Not available UEL : Not available  
FLASH POINT : Does not flash (Pensky-Martens closed cup)  
EXTINGUISHING MEDIA :  
SUITABLE: Water, CO<sub>2</sub>, Foam, Dry chemical.  
NOT TO BE USED :  
SPECIAL EXPOSURE HAZARDS : Refer to section 10.  
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS :  
Use self-contained breathing apparatus.

**6. ACCIDENTAL RELEASE MEASURES**

PERSONAL PRECAUTION : In case of ink vapor formation use respirator.  
ENVIRONMENTAL PRECAUTION : Take care to minimize ink that reaches to a sewer.  
METHODS FOR CLEANING UP : Wipe up ink with absorbent towel. Wash with water to remove remaining traces of ink.

**7. HANDLING AND STORAGE**

HANDLING : Avoid skin contact with ink. Prevent eye contact with ink.  
STORAGE : Keep out of reach of children. Store in a cool, dark, and dry place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

ENGINEERING CONTROLS : Ventilation is not required under normal use.  
RESPIRATORY PROTECTION : Not required under normal use.  
HAND PROTECTION : Not required under normal use.  
EYE PROTECTION : Not required under normal use.  
SKIN PROTECTION : Not required under normal use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE :	Dark blue liquid
BOILING POINT :	103°C
COLOR :	Dark blue
DENSITY :	1.07 g/cc
FREEZING POINT :	-12°C
ODOR :	Slight odor
pH :	7 – 10
PHYSICAL STATE :	Liquid
SOLUBILITY IN WATER :	Soluble
VAPOR DENSITY (AIR=1) :	Not available
VAPOR PRESSURE :	<0.5kPa at 20°C

**10. STABILITY AND REACTIVITY**

STABILITY :	Stable.
CONDITIONS TO AVOID :	None.
MATERIALS TO AVOID :	Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS :	Carbon monoxide, Carbon dioxide.
HAZARDOUS POLYMERIZATION :	Does not occur.

**11. TOXICOLOGICAL INFORMATION**

EYE EFFECTS :	Ink is classified as a MINIMAL IRRITANT.
SKIN EFFECTS :	Ink is classified as a MILD IRRITANT.
ACUTE ORAL EFFECTS :	LD <sub>50</sub> of ink is greater than 2000 mg/kg.

**12. ECOLOGICAL INFORMATION**

Ink does not contain heavy metals nor halogenated compounds.

**13. DISPOSAL CONSIDERATIONS**

Dispose of ink cartridge in accordance with federal, state and local regulations.

**14. TRANSPORT INFORMATION**

Not regulated under United States DOT.

**15. REGULATORY INFORMATION**

Ink does not need to be labeled in accordance with EU Directive 1999/45/EC.  
All components in ink are listed on EPA TSCA inventory.  
All components in ink are listed on EINECS or ELINCS inventory.  
All components in ink are listed on DSL inventory.  
All components in ink are listed on AICS inventory.

**16. OTHER INFORMATION**

The information relates only to this specific ink cartridge. It may not be valid for this ink cartridge, if used in combination with any other materials or in any other process. And it is based on our best knowledge as of the date of preparation (revision).