

Product name: LC12C, LC17C, LC40C, LC71C, LC73C, LC75C,  
LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

Issuing Date: 12-April-2010  
Revision Date: 10-November-2012  
Version: 5  
SDS No: BHC021-01-EUUSOTHER

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name (code)** LC12C (LK5482001), LC17C (LK5478001), LC40C (LK6316001), LC71C (LK6002001),  
LC73C (LK6208001), LC75C (LK5474001), LC77XLC (LK6184001), LC79C (LK5470001),  
LC400C (LK6152001), LC450XLC (LK6128001), LC1220C (LK6010001),  
LC1240C (LK5703001, LK5828001), LC1280XLC (LK5707001)

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant Identified Use(s)** These products are dark blue ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated. Information provided on this SDS is only consistent with the use specified by Brother.

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer** Brother Industries, Ltd.  
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan  
Telephone (for information): +81-52-824-2735

**Importer (USA)** Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-800-284-4329

**Importer (Canada)** Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

**Importer (Europe)** Brother International Europe Ltd.  
Brother House, 1 Tame Street, Guide Bridge, Audenshaw, Manchester M34 5JE, UK  
Telephone (for information): +44-161-330-6531

**Importer (Australia)** Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

**E-mail Address** sds.info@brother.co.jp

### 1.4 Emergency telephone number

**Emergency Telephone (24 hours)** CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)

For France only:  
Antipoison Center telephone number: ORFILA +33-1-45-425-959

Product name: LC12C, LC17C, LC40C, LC71C, LC73C, LC75C,  
LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

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Revision Date: 10-November-2012  
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SDS No: BHC021-01-EUUSOTHER

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

Not classified as hazardous

**Classification according to Directive 1999/45/EC**

Not classified as hazardous

**Australia Classification**

Not classified as hazardous according to the criteria of NOHSC

### 2.2 Label elements

**Labelling according to Regulation (EC) No. 1272/2008**

**Hazard pictograms**

None

**Signal Word**

None

**Hazard Statements**

None

**Precautionary statements**

None

### 2.3 Other hazards

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Description of the mixture:** Water based inkjet ink (Mixture).

Chemical Name	CAS-No	EC-No	w/w%	Classification (67/548/EEC)	Classification (EU Reg. 1272/2008)
Glycerol	56-81-5	200-289-5	10-20	Not classified	Not classified
Diethylene glycol	111-46-6	203-872-2	1-9	Xn; R22	Acute Tox. 4 (H302)
Triethylene glycol monobutyl ether	143-22-6	205-592-6	1-5	Xi; R41	Eye Dam. 1 (H318)
Cyan Dye	*	*	1-5	Not classified	Not classified
Water	7732-18-5	231-791-2	65-75	Not classified	Not classified

For the full text of R-phrases and H-Statements see Section 16

\* Registered

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SDS No: BHC021-01-EUUSOTHER

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice	If symptoms persist, obtain medical attention.
Inhalation	Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest.
Skin contact	Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.
Eye contact	Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.
Ingestion	Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.

### 4.2 Most important symptoms and effects, both acute and delayed

Skin contact: Repeated and/or prolonged skin contact may cause irritation.  
Eye contact: May cause eye irritation.  
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.  
Inhalation: Unlikely route of exposure.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable Extinguishing Media      Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.

Unsuitable Extinguishing Media      None.

### 5.2 Special hazards arising from the substance or mixture

Thermal decomposition of organic components may result in occurrence of oxides of carbon. Toxic gases may be formed upon combustion and represents a hazard to firefighters. Combustion products: See Section: 10.

### 5.3 Advice for firefighters

Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

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LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

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Version: 5  
SDS No: BHC021-01-EUUSOTHER

## SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**      Ensure adequate ventilation. Avoid contact with eyes.
- 6.2 Environmental precautions**      Prevent substance entering sewers. Washings must be prevented from entering surface water drains.
- 6.3 Methods and materials for containment and cleaning up**      Wipe up with absorbent towel Wash with water to remove remaining traces of ink
- 6.4 Reference to other sections**      For personal protection: See section 8.  
For disposal considerations: See section 13.

## SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**      Keep out of the reach of children. Avoid contact with skin and eyes.
- 7.2 Conditions for safe storage, including any incompatibilities**      Keep away from oxidizing agents.
- 7.3 Specific end use(s)**      These products are dark blue ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control Parameters

#### Occupational Exposure Limits

Chemical Name	Glycerol 56-81-5
ACGIH TLV	TWA: 10 mg/m <sup>3</sup> mist
OSHA PEL	TWA: 15 mg/m <sup>3</sup> mist, total particulate TWA: 5 mg/m <sup>3</sup> mist, respirable fraction
European Union	-
The United Kingdom	STEL: 30 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup>
France	TWA: 10 mg/m <sup>3</sup>
Spain	TWA: 10 mg/m <sup>3</sup>
Germany	TWA: 50 mg/m <sup>3</sup> Ceiling / Peak: 100 mg/m <sup>3</sup>
Portugal	TWA: 10 mg/m <sup>3</sup>
Finland	TWA: 20 mg/m <sup>3</sup>
Switzerland	STEL: 100 mg/m <sup>3</sup> TWA: 50 mg/m <sup>3</sup>
Poland	TWA: 10 mg/m <sup>3</sup>
Ireland	TWA: 10 mg/m <sup>3</sup>
Chemical Name	Diethylene glycol 111-46-6
ACGIH TLV	-
OSHA PEL	-
European Union	-

Product name: LC12C, LC17C, LC40C, LC71C, LC73C, LC75C,  
LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

Issuing Date: 12-April-2010  
Revision Date: 10-November-2012  
Version: 5  
SDS No: BHC021-01-EUUSOTHER

<b>The United Kingdom</b>	STEL: 69 ppm STEL: 303 mg/m <sup>3</sup> TWA: 23 ppm TWA: 101 mg/m <sup>3</sup>
<b>Germany</b>	TWA: 10 ppm TWA: 44 mg/m <sup>3</sup> Ceiling / Peak: 40 ppm Ceiling / Peak: 176 mg/m <sup>3</sup>
<b>Denmark</b>	TWA: 2.5 ppm TWA: 11 mg/m <sup>3</sup>
<b>Austria</b>	STEL 40 ppm STEL 176 mg/m <sup>3</sup> TWA: 10 ppm TWA: 44 mg/m <sup>3</sup>
<b>Switzerland</b>	STEL: 40 ppm STEL: 176 mg/m <sup>3</sup> TWA: 10 ppm TWA: 44 mg/m <sup>3</sup>
<b>Poland</b>	TWA: 10 mg/m <sup>3</sup>
<b>Ireland</b>	TWA: 23 ppm TWA: 100 mg/m <sup>3</sup>

## 8.2 Exposure controls

**Appropriate engineering controls** Good general ventilation should be sufficient under normal use.

**Personal protective equipment** Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:

Eye Protection Safety goggles.  
Hand Protection Protective gloves.  
Skin and body protection Long sleeved clothing and long pants.  
Respiratory protection Large spillages: Wear suitable respiratory protective equipment.

**Environmental Exposure Controls** Avoid release to the environment.

Product name: LC12C, LC17C, LC40C, LC71C, LC73C, LC75C,  
LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

Issuing Date: 12-April-2010  
Revision Date: 10-November-2012  
Version: 5  
SDS No: BHC021-01-EUUSOTHER

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	
Physical state	Liquid
Color	Dark blue
Odor	Slight
Odor Threshold	No information available
pH	7 - 9
Melting point/freezing point	- / < -5 °C
Initial boiling point and boiling range	> 100 °C
Flash Point	Not less than 93.3°C ( Tag closed cup; Cleveland open cup )
Evaporation rate	No information available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	No information available
Vapor pressure	No information available
Vapor density	No information available
Relative density	1.0 - 1.1 (H <sub>2</sub> O=1)
Solubility(ies)	Soluble (water)
Partition coefficient: n-octanol/water	No information available
Auto-ignition temperature	>400 °C
Decomposition temperature	No information available
Viscosity	2 - 5 mPa·s
Explosive properties	Not explosive
Oxidizing properties	No information available

### 9.2 Other information

No information available.

## SECTION 10: Stability and reactivity

10.1 Reactivity	No information available.
10.2 Chemical stability	Stable.
10.3 Possibility of hazardous reactions	No information available.
10.4 Conditions to avoid	No information available.
10.5 Incompatible materials	Strong oxidizing agents.
10.6 Hazardous decomposition products	Contains: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ).

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LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

Issuing Date: 12-April-2010  
Revision Date: 10-November-2012  
Version: 5  
SDS No: BHC021-01-EUUSOTHER

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Inhalation	No information available.
Eye contact	No information available.
Skin contact	No information available.
Ingestion	LD <sub>50</sub> > 2000 mg/kg (Method OECD#420)

**Skin corrosion/irritation** Non-irritant. (Method: OECD#404)

**Serious eye damage/irritation** Minimal irritant to the eye. (Method: OECD#405)

**Respiratory or skin sensitisation** It is not a skin sensitizer. (Method: OECD#429)

**Mutagenicity** Negative. (Method: OECD#471)

**Carcinogenicity** **Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA**

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LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

Issuing Date: 12-April-2010  
Revision Date: 10-November-2012  
Version: 5  
SDS No: BHC021-01-EUUSOTHER

**SECTION 12: Ecological information**

**12.1 Toxicity**

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Glycerol 56-81-5		LC <sub>50</sub> : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss)	EC <sub>50</sub> : >500 mg/L 24 h (Daphnia magna)
Diethylene glycol 111-46-6		LC <sub>50</sub> : 75200 mg/L 96 h flow-through (Pimephales promelas)	EC <sub>50</sub> : 84000 mg/L 48 h (Daphnia magna)
Triethylene glycol monobutyl ether 143-22-6	EC <sub>50</sub> : >500 mg/L 72 h (Desmodesmus subspicatus)	LC <sub>50</sub> : 2200 - 4600 mg/L 96 h static (Leuciscus idus) LC <sub>50</sub> : 2400 mg/L 96 h static (Pimephales promelas) LC <sub>50</sub> : 2400 mg/L 96 h (Pimephales promelas)	EC <sub>50</sub> : >500 mg/L 48 h (Daphnia magna)

**12.2 Persistence and degradability** No information available.

**12.3 Bioaccumulative potential**

Chemical Name	log Pow
Glycerol	-1.76
Diethylene glycol	-1.98
Triethylene glycol monobutyl ether	0.51

**12.4 Mobility in soil** No information available.

**12.5 Results of PBT and vPvB assessment** This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6 Other adverse effects** No information available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods** Dispose of in accordance with Federal, State, and local regulations.



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LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

Issuing Date: 12-April-2010  
Revision Date: 10-November-2012  
Version: 5  
SDS No: BHC021-01-EUUSOTHER

## SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

<b>14.1 UN Number</b>	None
<b>14.2 UN proper shipping name</b>	None
<b>14.3 Transport hazard class(es)</b>	None
<b>14.4 Packing Group</b>	None
<b>14.5 Environmental hazards</b>	None
<b>14.6 Special precautions for user</b>	None
<b>14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code</b>	Not applicable

Not regulated under DOT, IMDG, IATA.

## SECTION 15: Regulatory information

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	<b>EU:</b> Not classified as dangerous for supply/use. (1999/45/EC) <b>USA:</b> All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules. <b>Canada:</b> WHMIS: Not applicable. (Manufactured article)
<b>15.2 Chemical Safety Assessment</b>	No.

Product name: LC12C, LC17C, LC40C, LC71C, LC73C, LC75C,  
LC77XLC, LC79C, LC400C, LC450XLC, LC1220C, LC1240C,  
LC1280XLC Ink

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Revision Date: 10-November-2012  
Version: 5  
SDS No: BHC021-01-EUUSOTHER

## SECTION 16: Other information

<b>Full text of R-phrases referred to under sections 2 and 3</b>	R22 - Harmful if swallowed R41 - Risk of serious damage to eyes
<b>Full text of H-Statements referred to under sections 2 and 3</b>	H302 - Harmful if swallowed H318 - Causes serious eye damage
<b>Additional information</b>	The information relates only to this product. It may not be valid, 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).
<b>Revision Note</b>	Updated for compliance with EU Regulations 453/2010 and 172/2008 (CLP).
<b>References:</b>	U.S. 29CFR Part 1910 ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans World Health Organization EU Directive 91/322/EEC and 2000/39/EC NTP 11th Report on Carcinogens
<b>Abbreviations:</b>	ACGIH: American Conference of Governmental Industrial Hygienists DOT: Department Of Transportation (US) IARC: International Agency for Research on Cancer IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods NOHSC: National Occupational Health and Safety Commission (Australia) NTP: National Toxicology Program (US) OSHA: Occupational Safety and Health Administration (US) PEL: Permissible Exposure Limit STEL: Short Term Exposure Limit TLV: Threshold Limit Value (ACGIH) TSCA: Toxic Substances Control Act (US) TWA: Time Weighted Average WHMIS: Workplace Hazardous Material Information System (Canada)