

Product Name
LC103Y, LC105Y, LC113Y, LC115Y, LC123Y, LC125XLY, LC563Y, LC565Y, LC573Y, LC575XLY,
LC583Y, LC585Y, LC593Y, LC595XLY

First Issue: Oct.26,2011
Revised: Mar.12,2012
Version Number: 2
SDS No.: BHY023

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name:	LC103Y	LC105Y	LC113Y	LC115Y
Product Code:	LK6540001	LK6579001	LK6871001	LK6903001
Product Name:	LC123Y	LC125XLY	LC563Y	LC565Y
Product Code:	LK6813001	LK6927001	LK6973001	LK6977001
Product Name:	LC573Y	LC575XLY	LC583Y	LC585Y
Product Code:	LK6985001	LK6989001	LK7004001	LK7008001
Product Name:	LC593Y	LC595XLY		
Product Code:	LK7016001	LK7020001		

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

Identified use(s): Cartridge contained water based ink for inkjet printing machine

1.3 Details of the supplier of the safety data sheet

Manufacturer:	BROTHER INDUSTRIES, LTD. 5-1, Hamada-cho, Minami-ku, Nagoya 457-0822, JAPAN Telephone Number for Information : +81-52-824-3445
Importer (Europe):	BROTHER INTERNATIONAL EUROPE LTD. Brother House, 1 Tame Street, Audenshaw, Manchester M34 5JE, UK Telephone Number for Information : +44-161-330-6531
Importer (USA):	BROTHER INTERNATIONAL CORPORATION 100 Somerset Corporate Boulevard, Bridgewater, NJ 08807-0911, USA Telephone Number for Information : +1-908-704-1700
Importer (Canada):	BROTHER INTERNATIONAL CORPORATION (Canada) LTD. 1 rue Hôtel de Ville, Dollard-des-Ormeaux, Québec, H9B 3H6, CANADA Telephone Number for Information : +1-514-685-0600
Importer (Australia):	BROTHER INTERNATIONAL (AUST.) PTY. LTD. ACN 001 393 835 Level 3, Building A, 11 Talavera Road Macquarie Park, N.S.W. 2113, AUSTRALIA Telephone Number for Information : +61-2-9887-4344
E-Mail (competent person):	sds.ieink@brother.co.jp

1.4 Emergency telephone number

Emergency Phone No. (24 hours) We do not provide 24 hours cover for information contact.
Please telephone to the above office during our business hours.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture	
EU Classification:	Ink is not classified according to EU-Directive 1999/45/EC.
2.2 Label elements	Label elements according to EU Directive 1999/45EC.: None
2.3 Other hazards	None

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

CHEMICAL NAME	CAS No.	EC No.	% by weight	EU Symbol	EU Risk Phrases
Glycerol	56-81-5	200-289-5	5 - 15	Not classified	Not classified
Triethylene glycol monobutyl ether	143-22-6	205-592-6	1 - 5	Xi	R41
Yellow Dye	Registered	Registered	1 - 5	Not classified	Not classified
Water	7732-18-5	231-791-2	65 - 75	Not classified	Not classified

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation:	Remove to fresh air area and obtain medical attention immediately.
Skin Contact:	Wash with water and soap. If irritation continues, obtain medical attention.
Eye Contact:	Flush immediately with gentle running water for 15 minutes at least. If irritation continues, obtain medical attention.
Ingestion:	Rinse mouth with water, give one or two of glasses of water, and obtain medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:
No harmful effects are expected under normal use.
Over exposure to vapor or mist, may cause symptoms such as respiratory irritation, cough, dizziness, headache and nausea.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media: Water, CO₂, Foam, Dry chemical.

Unsuitable Extinguishing Media: None.

5.2 Special hazards arising from the substance or mixture

May produce toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides if burning.

5.3 Advice for fire-fighters

Use self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with eyes, skin and clothing.

6.2 Environmental precautions

Do not release to surface water or ground water.

6.3 Methods and material for containment and cleaning up

Wipe up ink with absorbent towel. Wash with water to remove remaining traces of ink.

6.4 Reference to other sections

See Section: 8.

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SECTION 7: HANDLING AND STORAGE

- 7.1 **Precautions for safe handling** Avoid contact with skin, eyes and clothing.
- 7.2 **Conditions for safe storage, including any incompatibilities** Keep out of reach of children. Store in a cool and dark place.
- 7.3 **Specific end use(s)** Cartridge contained water based ink for inkjet printing machine

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 **Control parameters**

Occupational Exposure Limits:

CHEMICAL NAME	OSHA PEL	ACGIH TLV	EU IOELV
Glycerol	(as mist) Total dust TWA 15mg/m ³	(as mist) TWA 10mg/m ³	Not established

8.2 **Exposure controls**

- Appropriate engineering controls** Use in a ventilated area.
- Personal Protection**
- Eye/face protection Not required under normal use.
- Skin protection Not required under normal use.
- Hand protection Not required under normal use.
- Respiratory protection Not required under normal use.
- Other: Not applicable.
- Environmental Exposure Controls** Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 **Information on basic physical and chemical properties**

- Appearance (20 °C) Dark yellow liquid
- Odor Slight odor
- Odor threshold (ppm) Not available
- pH (Value) 7 – 9
- Melting point (°C) / Freezing point (°C) Melting point(°C) : <-5°C
- Boiling point/boiling range (°C) Boiling point(°C) : >100°C
- Flash point (°C) Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup)
- Evaporation rate Not available
- Flammability (solid, gas) LEL : Not available UEL : Not available
- Explosive limit ranges Not available
- Vapor pressure (Pa) Not available
- Vapor density (Air=1) Not available
- Density (g/cm³) 1.0 – 1.1 g/ml
- Solubility (Water) Soluble
- Solubility (Other) Not available
- Partition coefficient (n-Octanol/water) Not available
- Auto ignition point (°C) >400°C
- Decomposition temperature (°C) Not available
- Viscosity (mPa. s) 1 – 5 mPa-s
- Explosive properties Not available

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	Oxidising properties	Not available
9.2	Other information	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	None
10.2	Chemical stability	Stable
10.3	Possibility of hazardous reactions	Will not occur
10.4	Conditions to avoid	High-temperature or High-humidity
10.5	Incompatible materials	Acids, Bases, Oxidizing agents, Reducing agents
10.6	Hazardous Decomposition Product(s)	Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Information on toxicological effects	
	Acute toxicity (oral):	LD ₅₀ of ink is greater than 2000mg/kg.
	Skin corrosion/irritation:	Ink is classified as a NON IRRITANT
	Serious eye damage/irritation:	Ink is classified as a MINIMAL IRRITANT
	Respiratory or skin sensitization:	Respiratory sensitization : Not available Skin sensitization : Non-sensitizer
	Mutagenicity:	Ames test : Negative
	Carcinogenicity:	Ingredients of ink have not been classified as carcinogens according to IARC monographs, NTP, and OSHA regulated.
	Reproductive toxicity:	Not available
	STOT-single exposure:	Not available
	STOT-repeated exposure:	Not available
	Aspiration hazard:	Not available
	Potential Health Effects:	Eye : Ink may cause slight irritation. Skin : 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. Over exposure may cause respiratory irritation.

SECTION 12: ECOLOGICAL INFORMATION

12.1	Toxicity	Not available
12.2	Persistence and degradability	Not available
12.3	Bioaccumulative potential	Not available
12.4	Mobility in soil	Not available
12.5	Results of PBT and vPvB assessment	Not available
12.6	Other adverse effects	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Waste treatment methods	Dispose in accordance with federal, state and local regulations.
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SECTION 14: TRANSPORT INFORMATION

14.1 UN number	None
14.2 Proper Shipping Name	None
14.3 Transport hazard class(es)	None
14.4 Packing Group	None
	US Department of Transportation (DOT) : Not regulated as dangerous goods.
	Maritime Transport IMDG : Not regulated as dangerous goods.
	Air Transport ICAO/IATA : Not regulated as dangerous goods.
14.5 Environmental hazards	Not available
14.6 Special precautions for user	None
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	EUROPEAN REGULATIONS
	EU Information: All components in ink comply with REACH rules and regulations.
	EU Hazard Label : Ink is not classified according to EU-Directive 1999/45/EC.
	US REGULATIONS
	US Information: All components in ink comply with TSCA rules and regulations.
	Canada REGULATIONS
	Canada Information: WHMIS : Not applicable. (Manufactured article)
15.2 Chemical Safety Assessment	None

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SECTION 16: OTHER INFORMATION

Hazard Symbol: Xi : Irritant

Risk Phrases: R41 : Risk of serious damage to eyes.

Issue Date: Mar. 12, 2012

The following sections contain revisions or new statements: Format, All sections

Additional information: The information only relates 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).

References: World Health Organization International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risks to Humans, Volume 93
EU Directive 1999/45/EC
U.S. Department of labor, 29CFR Part 1910.
ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
EU Commission Directive 2009/161/EU

Abbreviations: ACGIH: American Conference of Governmental Industrial Hygienists
DOT: Department Of Transportation (US)
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods
IOELV: Indicative Occupational Exposure Limit Value
NTP: National Toxicology Program (US)
OSHA: Occupational Safety and Health Administration (US)
PEL: Permissible Exposure Limit
REACH: Registration, Evaluation, Authorization and Restriction of Chemicals (EU)
TLV: Threshold Limit Value (ACGIH)
TSCA: Toxic Substances Control Act (US)
WHMIS: Workplace Hazardous Material Information System (Canada)