

Product Name: LC11C, LC16C, LC38C, LC39C, LC60C, LC61C, LC67C, LC975C,
LC980C, LC985C, LC990C, LC1100C, LC65HYC, LC67HYC, LC990HYC, LC1100HYC
Ink

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Issuing Date: 26-Dec-2007

Revision Number: 12

Safety data sheet number: BHC018-01

1. IDENTIFICATION

Product identifier

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LC990C, LC1100C, LC65HYC, LC67HYC, LC990HYC, LC1100HYC Ink

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use 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.

Uses advised against No information available

Details of the supplier of the safety data sheet

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

Supplier Address Brother International Corporation
200 Crossing Boulevard, Bridgewater, NJ 08807, USA
Telephone (for information): +1-877-276-8437

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

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The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance
Physical stateLiquid **Odor:** Slight

Other Information

Unknown acute toxicity

32.5 % of the mixture consists of ingredient(s) of unknown toxicity
3 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
3 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
32.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
32.5 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
12 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Trade secret
Water	7732-18-5	60-70	*
Glycerol	56-81-5	15-25	*
Triethylene glycol, monobutyl ether	143-22-6	1-5	*
Diethylene glycol	111-46-6	1-5	*
Cyan Dye	**	< 5	*
1,2-Benzisothiazolin-3-one	2634-33-5	< 0.05	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

** Trade secret

4. FIRST AID MEASURES

Description of first aid measures

General advice

If symptoms persist, call a physician.

Inhalation

Get immediate medical advice/attention. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Eye contact

Get immediate medical advice/attention. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes.

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Skin contact: Take off contaminated clothing. Wash off immediately with soap and plenty of water.

Ingestion Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.

Most important symptoms and effects, both acute and delayed

Symptoms Skin contact: Repeated and/or prolonged skin contact may cause irritation
Eye contact: May cause eye irritation
Ingestion: May cause stomach ache. Unlikely route of exposure
Inhalation : Unlikely route of exposure

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical, CO₂, water spray or regular foam

Unsuitable extinguishing media None.

Specific hazards arising from the chemical 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.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters 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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid contact with eyes.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

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Methods and material for containment and cleaning up

- Methods for containment** Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up** Wipe up with absorbent towel Wash with water to remove remaining traces of ink.
- Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.
- Reference to other sections** See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep out of the reach of children. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from oxidizing agents

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerol 56-81-5	No data available	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-

Appropriate engineering controls

Engineering controls Good general ventilation should be sufficient under normal use.

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Individual protection measures, such as personal protective equipment

Eye/face protection	If there is a risk of contact: Safety goggles.
Hand protection	If there is a risk of contact: Protective gloves.
Skin and body protection	If there is a risk of contact: Long sleeved clothing and long pants.
Respiratory protection	In case of large spillages: Wear suitable respiratory protective equipment.
Environmental exposure controls	Avoid release to the environment.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	dark blue
Odor	Slight
Odor threshold	No information available

Property

Values

Remarks • Method

pH	7 - 9	
Melting point / freezing point	< -5 °C	
Boiling point / boiling range	> 100 °C	
Flash point	> 94 °C	Tag Closed Cup Cleveland Open Cup
Evaporation rate	No data available	None known
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.0 - 1.1	(H ₂ O=1)
Water solubility	Soluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	> 400 °C	
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	1 - 5 mPa s	
Explosive properties	Not explosive	No information available.
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available

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VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No information available.
Conditions to avoid	No information available.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon monoxide. Carbon dioxide (CO ₂).

11. TOXICOLOGICAL INFORMATION

Product Information

Inhalation	No information available
Eye contact	No information available
Skin contact:	Specific test data for the substance or mixture is not available May cause irritation
Ingestion	Acute LD ₅₀ > 2000 mg/kg (OECD 420 method)
Symptoms	Redness. Burning. May cause blindness.

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (dermal)	21,394.20 mg/kg
Skin corrosion/irritation	Non-irritant (OECD 404 method)
Serious eye damage/irritation	Minimal irritant to the eye (OECD 405 method)
Respiratory or skin sensitization	It is not a skin sensitizer (OECD 429 method)
Germ cell mutagenicity	AMES test : Negative (OECD 471 method)
Carcinogenicity	Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA

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12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol 56-81-5	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	-	500: 24 h Daphnia magna mg/L EC50
Triethylene glycol, monobutyl ether 143-22-6	500: 72 h Desmodemus subspicatus mg/L EC50	2400: 96 h Pimephales promelas mg/L LC50 static 2400: 96 h Pimephales promelas mg/L LC50 2200 - 4600: 96 h Leuciscus idus mg/L LC50 static	-	500: 48 h Daphnia magna mg/L EC50
Diethylene glycol 111-46-6	-	75200: 96 h Pimephales promelas mg/L LC50 flow-through	EC50 = 29228 mg/L 15 min	84000: 48 h Daphnia magna mg/L EC50

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Glycerol 56-81-5	-1.76
Triethylene glycol, monobutyl ether 143-22-6	0.51
Diethylene glycol 111-46-6	-1.98
1,2-Benzisothiazolin-3-one 2634-33-5	1.3

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose in accordance with federal, state and local regulations

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14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO (air)</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.



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SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Right-to-Know Regulations

US State Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X
Glycerol 56-81-5	X	X	X
Diethylene glycol 111-46-6	-	-	X
Triethylene glycol, monobutyl ether 143-22-6	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<u>NFPA</u>	Health hazards 0	Flammability 0	Instability 0	Section 9: Physical and chemical properties - Personal protection X
<u>HMIS</u>	Health hazards 0	Flammability 0	Physical hazards 0	

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Revision Note	No information available.



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Disclaimer

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).

End of Safety Data Sheet