

Revision Date: 29-Jul-2022

Issuing Date: 26-Oct-2011

Revision Number: 6.2

Product Name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

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1. Identification

Product identifier

Product Name LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

Other means of identification

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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 manufacturer or importer

Manufacturer

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

Importer

Brother International (Aust.) Pty. Ltd.
ACN 001 393 835 Unit 2/51 Eastern Creek Drive Eastern Creek, NSW 2766, Australia
Telephone (for information): +61-2-9887-4344

For further information, please contact

Contact Point Product Safety Department

E-mail address sds.info@brother.co.jp

Emergency telephone number

Emergency telephone number CHEMTREC +61-290372994 (Australia)
CHEMTREC +1-703-527-3887 (International)
The National Poisons Centre, New Zealand: 0800 764 766 (0800 POISON)

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2. Hazard(s) identification

GHS Classification

Not classified

Label elements

Not classified

Hazard statements

Not classified

Other hazards which do not result in classification

General 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).

3. Composition/information on ingredients

Substance

Not applicable

Mixture

Chemical name	CAS No	Weight-%
Water	7732-18-5	65-75
Glycerol	56-81-5	10-20
Diethylene glycol	111-46-6	1-9
Triethylene glycol, monobutyl ether	143-22-6	1-5
Cyan Dye	**	1-5
1,2-Benzisothiazolin-3-one	2634-33-5	<0.05

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4. First-aid measures

Description of first aid measures

General advice	If symptoms persist, call a physician.
Emergency telephone number	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
Inhalation	Remove to fresh air. Get immediate medical advice/attention.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin contact:	Wash with soap and water. Get medical attention if irritation develops and persists.
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
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray or regular foam
Unsuitable extinguishing media	None.
Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating gases and vapors

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Special protective actions for fire-fighters

Special protective equipment for fire-fighters Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

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

Methods and material for containment and cleaning up

Methods for containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

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

Precautions to prevent secondary hazards

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 Avoid contact with skin, eyes or clothing.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep out of the reach of children. Store in a cool, well ventilated area.

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Incompatible materials

Acids, Bases, Oxidizing agent, Reducing agent

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	Australia	ACGIH TLV
Glycerol 56-81-5	10 mg/m ³	
Diethylene glycol 111-46-6	23 ppm 100 mg/m ³	

Appropriate engineering controls

Engineering controls

Good general ventilation should be sufficient under normal use.

Individual protection measures, such as personal protective equipment

Eye/face protection

If there is a risk of contact: Safety goggles.

Skin and body protection

If there is a risk of contact: Apron, Boots

Hand protection

If there is a risk of contact: Protective gloves.

Respiratory protection

Use appropriate respiratory protection.

Environmental exposure controls

Avoid release to the environment.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	aqueous solution
Color	dark blue
Odor	Slight.
Odor threshold	No information available

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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7 - 9	
pH (as aqueous solution)	No data available	
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)	No data available	None known
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 - 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	2 - 5 mPa·s	
Explosive properties	No information available	
Oxidizing properties	No information available	
<u>Other Information</u>		
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. Stability and reactivity

Reactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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Possibility of hazardous reactions

Possibility of hazardous reactions No information available.

Conditions to avoid

Conditions to avoid No information available.

Incompatible materials

Incompatible materials Acids. Bases. Oxidizing agent. Reducing agent.

Hazardous decomposition products

Hazardous decomposition products Carbon monoxide, Carbon dioxide (CO₂)

11. Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information

Inhalation	No information available
Eye contact	No information available
Skin contact:	No information available
Ingestion	Acute LD ₅₀ > 2000 mg/kg (OECD 420 method)

Symptoms No information available.

Numerical measures of toxicity - Product Information

No information available

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

ATEmix (dermal)	31,428.80 mg/kg
ATEmix (inhalation-dust/mist)	94.00 mg/l

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Unknown acute toxicity

9 % of the mixture consists of ingredient(s) of unknown toxicity

4.5 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

4.5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

28.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

28.9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

9 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
Glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L (Rat) 4 h
Diethylene glycol	= 12565 mg/kg (Rat)	= 11890 mg/kg (Rabbit)	> 4600 mg/m ³ (Rat) 4 h
Triethylene glycol, monobutyl ether	= 5300 mg/kg (Rat)	= 3540 mg/kg (Rabbit)	-
1,2-Benzisothiazolin-3-one	= 1020 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Non-irritant (OECD 404 method)
Serious eye damage/eye 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
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

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Potential health effects

Eye : May cause slight irritation
Skin : Prolonged exposure may cause skin irritation
Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Inhalation : Not an expected route of exposure Over exposure may cause respiratory irritation.

12. Ecological information

Ecotoxicity

Ecotoxicity

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol	-	LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i>)	-	-
Diethylene glycol	-	LC50: =75200mg/L (96h, <i>Pimephales promelas</i>)	EC50 = 29228 mg/L 15 min	EC50: =84000mg/L (48h, <i>Daphnia magna</i>)
Triethylene glycol, monobutyl ether	EC50: >500mg/L (72h, <i>Desmodesmus subspicatus</i>)	LC50: =2400mg/L (96h, <i>Pimephales promelas</i>)	-	EC50: >500mg/L (48h, <i>Daphnia magna</i>)

Persistence and degradability

Persistence and degradability

No information available.

Bioaccumulative potential

Bioaccumulation

There is no data for this product.

Component Information

Chemical name	Partition coefficient
Glycerol	-1.75
Diethylene glycol	-1.98
Triethylene glycol, monobutyl ether	0.51
1,2-Benzisothiazolin-3-one	0.99

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Mobility

Mobility in soil No information available.

Other adverse effects

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.

14. Transport information

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National Regulations

Australia

See section 8 for national exposure control parameters

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Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 6

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Diethylene glycol - 111-46-6	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

International Inventories

TSCA	Complies
DSL/NDL	Exempt
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

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

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16. Other information

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Revision Note

SDS sections updated : 1

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	**	Trade secret
C	Carcinogen		

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet