SAFETY DATA SHEET

Revision Date: 10-Mar-2020
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Product Name: LC11C, LC16C, LC38C, LC39C, LC60C, LC61C, LC67C, LC975C, LC980C, LC985C, LC990C, LC1100C, LC65HYC, LC67HYC, LC990HYC, LC1100HYC Ink

Safety data sheet number: BHC018-01

1. Identification

Product identifier

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

Other means of identification

Safety data sheet number BHC018-01

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 Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, 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 No information available

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	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

** CONFIDENTIAL

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 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.

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

Suitable Extinguishing Media Dry chemical, CO_2, 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.

Special protective actions for fire-fighters

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

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 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.

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 Keep out of the reach of children. Avoid contact with skin and eyes.

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

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from oxidizing agents

Incompatible materials Strong oxidizing agents

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:. Long sleeved clothing and long pants.

Hand protection If there is a risk of contact:. Protective gloves.

Respiratory protection In case of large spillages: Wear suitable respiratory protective equipment.

Environmental exposure controls Avoid release to the environment.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
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_2O=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	
Oxidizing properties	No information available	

Other Information

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.

Possibility of hazardous reactions

Possibility of hazardous reactions No information available.

Conditions to avoid

Conditions to avoid No information available.

Incompatible materials

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products Carbon monoxide. Carbon dioxide (CO_2).

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) 21,394.20 mg/kg

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)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)	-	-
Glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m^3 (Rat) 1 h
Triethylene glycol, monobutyl ether	= 5300 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
Diethylene glycol	= 12565 mg/kg (Rat)	= 11890 mg/kg (Rabbit)	-
1,2-Benzisothiazolin-3-one	= 1020 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

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	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	-	500: 24 h Daphnia magna mg/L EC50
Triethylene glycol, monobutyl ether	500: 72 h Desmodesmus 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	-	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

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Glycerol	-1.76
Triethylene glycol, monobutyl ether	0.51
Diethylene glycol	-1.98
1,2-Benzisothiazolin-3-one	1.3

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.

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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

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 Contact supplier for inventory compliance status

DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AICS	Contact supplier for inventory compliance status

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - 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

16. Other information

Issuing Date 26-Dec-2007

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Revision Note
The symbol (*) in the margin of this SDS indicates that this line has been revised.

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
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
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

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End of Safety Data Sheet