

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

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHC021-01

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

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

Product Form Mixture

Safety data sheet number BHC021-01

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

Relevant identified uses 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

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

For further information, please contact

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

1.4. Emergency telephone number

Emergency Telephone CHEMTREC +1-703-527-3887 (International)

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

Section 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

EUH208 - Contains 1,2-Benzisothiazolin-3-one May produce an allergic reaction.

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

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No	EC No	EC Index No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	65-75	Not classified	No data available
Glycerol	56-81-5	200-289-5	-	10-20	Not classified	No data available
Diethylene glycol	111-46-6	203-872-2	603-140-00-6	1-9	Acute Tox. 4 (H302)	No data available
Triethylene glycol, monobutyl ether	143-22-6	205-592-6	603-183-00-0	1-5	Eye Dam. 1 (H318)	No data available
Cyan Dye	**	-	-	1-5	Eye Dam. 1 (H318)	No data available
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	<0.05	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	No data available

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Full text of H- and EUH-phrases: see section 16

Section 4: First aid measures

4.1. Description of first aid measures

General advice

If symptoms persist, call a physician.

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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.

4.2. 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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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: Firefighting measures

5.1. Extinguishing media

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

Unsuitable extinguishing media None

5.2. Special hazards arising from the substance or mixture

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.

5.3. Advice for firefighters

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.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Ensure adequate ventilation. Avoid contact with eyes.

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

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For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

6.3. 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.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from oxidizing agents.

7.3. Specific end use(s)

Specific 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.

Section 8: Exposure controls and personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Glycerol 56-81-5	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 200 mg/m ³

Diethylene glycol 111-46-6	-	TWA: 23 ppm TWA: 101 mg/m ³ STEL: 69 ppm STEL: 303 mg/m ³	-	-	TWA: 10 ppm TWA: 44 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m ³	-	TWA: 20 mg/m ³	-
Diethylene glycol 111-46-6	-	-	-	-	TWA: 2.5 ppm TWA: 11 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m ³ STEL: 100 mg/m ³	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³
Diethylene glycol 111-46-6	TWA: 10 ppm TWA: 44 mg/m ³ STEL 40 ppm STEL 176 mg/m ³	TWA: 10 ppm TWA: 44 mg/m ³ STEL: 40 ppm STEL: 176 mg/m ³	TWA: 10 mg/m ³	-	TWA: 23 ppm TWA: 100 mg/m ³ STEL: 69 ppm STEL: 300 mg/m ³

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

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/face protection Safety goggles.

Hand protection Protective gloves.

Skin and body protection 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.

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

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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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	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	1.0 - 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	2 - 5 mPa s	
Explosive properties	Not explosive	No information available
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 under normal conditions.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

Strong oxidizing agents

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

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10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO₂)

Section 11: Toxicological information

11.1. Information on toxicological effects

Product Information

Inhalation	No information available
Eye contact	No information available
Skin contact:	No information available
Ingestion	Acute LD ₅₀ > 2000 mg/kg

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

ATEmix (dermal)	24,047.90 mg/kg
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

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity

Contains 0.073 % of components with 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

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

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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
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

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

There is no data for this product.

Component Information

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

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 in accordance with federal, state and local regulations

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Section 14: Transport information

IMDG

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable

RID

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

ADR

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

IATA

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Section 15: Regulatory information

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

EU-Regulations

- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.
- * Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.
- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

National Regulations

No information available

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

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15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Section 16: Other information

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

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

Legend

SVHC: Substances of Very High Concern for Authorization:

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

** Trade secret

Key literature references and sources for data

No information available

Revision Date 15-Jun-2020

Issuing Date 12-Apr-2010

Revision Note No information available

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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).

Product Name: LC12M, LC17M, LC40M, LC71M, LC73M, LC75M, LC77XLM, LC79M,
LC400M, LC450XLM, LC1220M, LC1240M, LC1280XLM Ink

Revision Date: 15-Jun-2020

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Safety data sheet number: BHM021-01

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name LC12M, LC17M, LC40M, LC71M, LC73M, LC75M, LC77XLM, LC79M, LC400M,
LC450XLM, LC1220M, LC1240M, LC1280XLM Ink

Product Form Mixture

Safety data sheet number BHM021-01

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

Relevant identified uses These products are dark red 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

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

For further information, please contact

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

1.4. Emergency telephone number

Emergency Telephone CHEMTREC +1-703-527-3887 (International)

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

Section 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

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EUH208 - Contains 1,2-Benzisothiazolin-3-one May produce an allergic reaction.

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

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No	EC No	EC Index No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	65-80	Not classified	No data available
Glycerol	56-81-5	200-289-5	-	10-20	Not classified	No data available
Magenta Dye	**	-	-	<2.5	Aquatic Chronic 3 (H412)	No data available
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	<0.05	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	No data available

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Full text of H- and EUH-phrases: see section 16

Section 4: First aid measures

4.1. 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.

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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.

4.2. 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

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

Note to physicians Treat symptomatically.

Section 5: Firefighting measures

5.1. Extinguishing media

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

Unsuitable extinguishing media None

5.2. Special hazards arising from the substance or mixture

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.

5.3. Advice for firefighters

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.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Ensure adequate ventilation. Avoid contact with eyes.

Product Name: LC12M, LC17M, LC40M, LC71M, LC73M, LC75M, LC77XLM, LC79M, LC400M, LC450XLM, LC1220M, LC1240M, LC1280XLM Ink

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For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

6.3. 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.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Keep out of the reach of children.

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

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from oxidizing agents.

7.3. Specific end use(s)

Specific use(s) These products are dark red 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.

Section 8: Exposure controls and personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Glycerol 56-81-5	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 200 mg/m ³

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Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m ³	-	TWA: 20 mg/m ³	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m ³ STEL: 100 mg/m ³	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

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/face protection Safety goggles.

Hand protection Protective gloves.

Skin and body protection 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.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	dark red
Odor	Slight.
Odor threshold	No information available

Property

<u>Property</u>	<u>Values</u>
pH	7 - 9
Melting point / freezing point	< -5 °C
Boiling point / boiling range	> 100 °C
Flash point	> 94 °C
Evaporation rate	No data available
Flammability (solid, gas)	Not applicable
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available

Remarks • Method

Tag Closed Cup, Cleveland Open Cup,
None known

None known

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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)	Soluble in water	
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	Not explosive	No information available
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 under normal conditions.

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

Carbon monoxide, Carbon dioxide (CO₂)

Section 11: Toxicological information

11.1. Information on toxicological effects

Product Information

Inhalation No information available

Product Name: LC12M, LC17M, LC40M, LC71M, LC73M, LC75M, LC77XLM, LC79M, LC400M, LC450XLM, LC1220M, LC1240M, LC1280XLM Ink

Revision Date: 15-Jun-2020

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Eye contact No information available

Skin contact: No information available

Ingestion Acute LD₅₀ > 2000 mg/kg (OECD 420 method)

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

ATEmix (dermal) 52,684.20 mg/kg

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

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity

Contains 0 % of components with 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

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

There is no data for this product.

Component Information

Chemical name	Partition coefficient
Glycerol	-1.76
1,2-Benzisothiazolin-3-one	1.3

Product Name: LC12M, LC17M, LC40M, LC71M, LC73M, LC75M, LC77XLM, LC79M, LC400M, LC450XLM, LC1220M, LC1240M, LC1280XLM Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHM021-01

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 in accordance with federal, state and local regulations

Section 14: Transport information

IMDG

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable

RID

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

ADR

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Product Name: LC12M, LC17M, LC40M, LC71M, LC73M, LC75M, LC77XLM, LC79M,
LC400M, LC450XLM, LC1220M, LC1240M, LC1280XLM Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHM021-01

IATA

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Section 15: Regulatory information

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

EU-Regulations

- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.
- * Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.
- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

National Regulations

No information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Section 16: Other information

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

Full text of H-Statements referred to under section 3

- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage
- H400 - Very toxic to aquatic life
- H412 - Harmful to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorization:

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

** Trade secret

Key literature references and sources for data

No information available

Revision Date 15-Jun-2020

Issuing Date 12-Apr-2010

Revision Note No information available

Product Name: LC12M, LC17M, LC40M, LC71M, LC73M, LC75M, LC77XLM, LC79M,
LC400M, LC450XLM, LC1220M, LC1240M, LC1280XLM Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHM021-01

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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).

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y,
LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHY021-01

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y, LC400Y, LC450XLY,
LC1220Y, LC1240Y, LC1280XLY Ink

Product Form Mixture

Safety data sheet number BHY021-01

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

Relevant identified uses These products are dark yellow 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

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

For further information, please contact

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

1.4. Emergency telephone number

Emergency Telephone CHEMTREC +1-703-527-3887 (International)

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

Section 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y, LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

Revision Date: 15-Jun-2020

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Safety data sheet number: BHY021-01

EUH208 - Contains 1,2-Benzisothiazolin-3-one May produce an allergic reaction.

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

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No	EC No	EC Index No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	65-75	Not classified	No data available
Glycerol	56-81-5	200-289-5	-	5-15	Not classified	No data available
Yellow Dye	**	-	-	1-5	Not classified	No data available
Triethylene glycol, monobutyl ether	143-22-6	205-592-6	603-183-00-0	1-5	Eye Dam. 1 (H318)	No data available
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	<0.05	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	No data available

** CONFIDENTIAL

Full text of H- and EUH-phrases: see section 16

Section 4: First aid measures

4.1. Description of first aid measures

General advice If symptoms persist, call a physician.

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y,
LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

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Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHY021-01

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.

4.2. 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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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: Firefighting measures

5.1. Extinguishing media

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

Unsuitable extinguishing media None

5.2. Special hazards arising from the substance or mixture

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.

5.3. Advice for firefighters

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.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y, LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

Revision Date: 15-Jun-2020

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Safety data sheet number: BHY021-01

For non-emergency personnel Ensure adequate ventilation. Avoid contact with eyes.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

6.3. 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.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from oxidizing agents.

7.3. Specific end use(s)

Specific use(s) These products are dark yellow 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.

Section 8: Exposure controls and personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Glycerol 56-81-5	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 200 mg/m ³

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y, LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

Revision Date: 15-Jun-2020

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Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m ³	-	TWA: 20 mg/m ³	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m ³ STEL: 100 mg/m ³	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

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/face protection Safety goggles.

Hand protection Protective gloves.

Skin and body protection 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.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Liquid
Color dark yellow
Odor Slight.
Odor threshold No information available

Property

pH 7 - 9
Melting point / freezing point < -5 °C
Boiling point / boiling range > 100 °C
Flash point > 94 °C
Evaporation rate No data available
Flammability (solid, gas) Not applicable
Flammability Limit in Air
Upper flammability limit: No data available
Lower flammability limit: No data available

Remarks • Method

Tag Closed Cup, Cleveland Open Cup,
None known
None known

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	Not explosive	No information available
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 under normal conditions.

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

Carbon monoxide, Carbon dioxide (CO₂)

Section 11: Toxicological information

11.1. Information on toxicological effects

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)

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

ATEmix (dermal)	25,406.10 mg/kg
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

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity

Contains 0.3 % of components with 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 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

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

There is no data for this product.

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y, LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

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Component Information

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

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 in accordance with federal, state and local regulations

Section 14: Transport information

IMDG

14.1 UN/ID no Not regulated
 14.2 Proper shipping name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Marine pollutant Not applicable
 14.6 Special Provisions None
 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

RID

14.1 UN/ID no Not regulated
 14.2 Proper shipping name Not regulated
 14.3 Hazard Class Not regulated
 14.4 Packing group Not regulated
 14.5 Environmental hazard Not applicable
 14.6 Special Provisions None

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y,
LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHY021-01

ADR

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

IATA

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Section 15: Regulatory information

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

EU-Regulations

- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.
- * Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.
- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

National Regulations

No information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Section 16: Other information

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

Full text of H-Statements referred to under section 3

- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage
- H400 - Very toxic to aquatic life

Legend

SVHC: Substances of Very High Concern for Authorization:

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
** Trade secret

Product Name: LC12Y, LC17Y, LC40Y, LC71Y, LC73Y, LC75Y, LC77XLY, LC79Y,
LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHY021-01

Key literature references and sources for data

No information available

Revision Date 15-Jun-2020

Issuing Date 12-Apr-2010

Revision Note No information available

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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).

Product Name: LC12BK, LC17BK, LC40BK, LC71BK, LC73BK, LC75BK, LC77XLBK,
LC79BK, LC400BK, LC450XLBK, LC1220BK, LC1240BK, LC1280XLBK Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHK021-01

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name LC12BK, LC17BK, LC40BK, LC71BK, LC73BK, LC75BK, LC77XLBK, LC79BK, LC400BK,
LC450XLBK, LC1220BK, LC1240BK, LC1280XLBK Ink

Product Form Mixture

Safety data sheet number BHK021-01

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

Relevant identified uses These products are black 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

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

For further information, please contact

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

1.4. Emergency telephone number

Emergency Telephone CHEMTREC +1-703-527-3887 (International)

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

Section 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Product Name: LC12BK, LC17BK, LC40BK, LC71BK, LC73BK, LC75BK, LC77XLBK, LC79BK, LC400BK, LC450XLBK, LC1220BK, LC1240BK, LC1280XLBK Ink

Safety data sheet number: BHK021-01

EUH208 - Contains 1,2-Benzisothiazolin-3-one May produce an allergic reaction.

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

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No	EC No	EC Index No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	60-70	Not classified	No data available
Glycerol	56-81-5	200-289-5	-	5-15	Not classified	No data available
Diethylene glycol	111-46-6	203-872-2	603-140-00-6	1-9	Acute Tox. 4 (H302)	No data available
Carbon Black	1333-86-4	215-609-9 435-640-3	-	1-10	Not classified	Registered
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	<0.05	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	No data available

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Full text of H- and EUH-phrases: see section 16

Section 4: First aid measures

4.1. Description of first aid measures

General advice If symptoms persist, call a physician.

Product Name: LC12BK, LC17BK, LC40BK, LC71BK, LC73BK, LC75BK, LC77XLBK, LC79BK, LC400BK, LC450XLBK, LC1220BK, LC1240BK, LC1280XLBK Ink

Revision Date: 15-Jun-2020

Issuing Date: 12-Apr-2010

Revision Number: 7

Safety data sheet number: BHK021-01

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.

4.2. 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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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
---------------------------	------------------------

Section 5: Firefighting measures

5.1. Extinguishing media

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

Unsuitable extinguishing media None

5.2. Special hazards arising from the substance or mixture

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.

5.3. Advice for firefighters

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.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Ensure adequate ventilation. Avoid contact with eyes.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

6.3. 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.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from oxidizing agents.

7.3. Specific end use(s)

Specific use(s) These products are black 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.

Section 8: Exposure controls and personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Glycerol 56-81-5	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 200 mg/m ³

Diethylene glycol 111-46-6	-	TWA: 23 ppm TWA: 101 mg/m ³ STEL: 69 ppm STEL: 303 mg/m ³	-	-	TWA: 10 ppm TWA: 44 mg/m ³
Carbon Black 1333-86-4	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 3.5 mg/m ³	TWA: 3.5 mg/m ³	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m ³	-	TWA: 20 mg/m ³	-
Diethylene glycol 111-46-6	-	-	-	-	TWA: 2.5 ppm TWA: 11 mg/m ³
Carbon Black 1333-86-4	-	TWA: 3.5 mg/m ³	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 3.5 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m ³ STEL: 100 mg/m ³	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³
Diethylene glycol 111-46-6	TWA: 10 ppm TWA: 44 mg/m ³ STEL 40 ppm STEL 176 mg/m ³	TWA: 10 ppm TWA: 44 mg/m ³ STEL: 40 ppm STEL: 176 mg/m ³	TWA: 10 mg/m ³	-	TWA: 23 ppm TWA: 100 mg/m ³ STEL: 69 ppm STEL: 300 mg/m ³
Carbon Black 1333-86-4	-	-	TWA: 4.0 mg/m ³	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 3 mg/m ³ STEL: 15 mg/m ³

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

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/face protection Safety goggles.

Hand protection Protective gloves.

Skin and body protection 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.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	black
Odor	Slight.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7 - 9	
Melting point / freezing point	< -5 °C	
Boiling point / boiling range	> 100 °C	
Flash point	> 94 °C	
Evaporation rate	No data available	Tag Closed Cup, Cleveland Open Cup,
Flammability (solid, gas)	Not applicable	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	1.0 - 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	2 - 5 mPa s	
Explosive properties	Not explosive	No information available
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 under normal conditions.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

No information available.

Product Name: LC12BK, LC17BK, LC40BK, LC71BK, LC73BK, LC75BK, LC77XLBK,
LC79BK, LC400BK, LC450XLBK, LC1220BK, LC1240BK, LC1280XLBK Ink

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Revision Number: 7

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10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO₂)

Section 11: Toxicological information

11.1. Information on toxicological effects

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)

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

ATEmix (oral)	5,672.10 mg/kg
ATEmix (dermal)	21,117.40 mg/kg

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
Carbon Black: In 1996, the IARC re-evaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals, for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors.

Other ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity

Contains 1 % of components with 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
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
Carbon Black	-	1000:96 h Brachydanio rerio mg/L LC50	-	5600: 24 h Daphnia magna mg/L EC50

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

There is no data for this product.

Component Information

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

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 in accordance with federal, state and local regulations

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Section 14: Transport information

IMDG

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable

RID

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

ADR

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

IATA

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

Section 15: Regulatory information

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

EU-Regulations

- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.
- * Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.
- * Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

National Regulations

No information available

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15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Section 16: Other information

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

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

Legend

SVHC: Substances of Very High Concern for Authorization:

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

** Trade secret

Key literature references and sources for data

No information available

Revision Date 15-Jun-2020

Issuing Date 12-Apr-2010

Revision Note No information available

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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).