

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]

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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	-	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.

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<b>Inhalation</b>	Get immediate medical advice/attention. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
<b>Eye contact</b>	Get immediate medical advice/attention. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes.
<b>Skin contact:</b>	Take off contaminated clothing. Wash off immediately with soap and plenty of water.
<b>Ingestion</b>	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**

<b>Symptoms</b>	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**

<b>Note to physicians</b>	Treat symptomatically.
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**Section 5: Firefighting measures**

**5.1. Extinguishing media**

<b>Suitable Extinguishing Media</b>	Dry chemical, CO <sub>2</sub> , water spray or regular foam
<b>Unsuitable extinguishing media</b>	None

**5.2. Special hazards arising from the substance or mixture**

<b>Specific hazards arising from the chemical</b>	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.
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**5.3. Advice for firefighters**

<b>Special protective equipment for fire-fighters</b>	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.
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**Section 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

<b>For non-emergency personnel</b>	Ensure adequate ventilation. Avoid contact with eyes.
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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 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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>

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

**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 <sub>2</sub> 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.

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**10.5. Incompatible materials**

Strong oxidizing agents

**10.6. Hazardous decomposition products**

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>)

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

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

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

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

<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)
<b>Serious eye damage/eye irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	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



Product Name: LC12BK, LC17BK, LC40BK, LC71BK, LC73BK, LC75BK, LC77XLBK,  
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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: LC12BK, LC17BK, LC40BK, LC71BK, LC73BK, LC75BK, LC77XLBK,  
LC79BK, LC400BK, LC450XLBK, LC1220BK, LC1240BK, LC1280XLBK 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: LC12C, LC17C, LC40C, LC71C, LC73C, LC75C, LC77XLC, LC79C,  
LC400C, LC450XLC, LC1220C, LC1240C, LC1280XLC Ink

Revision Date: 15-Jun-2020

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## **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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<b>Inhalation</b>	Get immediate medical advice/attention. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
<b>Eye contact</b>	Get immediate medical advice/attention. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes.
<b>Skin contact:</b>	Take off contaminated clothing. Wash off immediately with soap and plenty of water.
<b>Ingestion</b>	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**

<b>Symptoms</b>	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**

<b>Note to physicians</b>	Treat symptomatically.
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**Section 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable Extinguishing Media** Dry chemical, CO<sub>2</sub>, 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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>

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

**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

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

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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 <sub>2</sub> 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 (CO<sub>2</sub>)

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

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

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

<b>ATEmix (dermal)</b>	24,047.90 mg/kg
<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)
<b>Serious eye damage/eye irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	AMES test : Negative (OECD 471 method)
<b>Carcinogenicity</b>	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

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

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

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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

\*\* 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.

**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, CO<sub>2</sub>, 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.

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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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>



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

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

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<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	1.0 - 1.1	(H <sub>2</sub> O=1)
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>	Soluble in water	
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	> 400 °C	
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	2 - 5 mPa s	
<b>Explosive properties</b>	Not explosive	No information available
<b>Oxidizing properties</b>	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 (CO<sub>2</sub>)

**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

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**Eye contact** No information available

**Skin contact:** No information available

**Ingestion** Acute LD<sub>50</sub> > 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

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**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

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**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

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**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

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## **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

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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	-	65-75	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.



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LC400Y, LC450XLY, LC1220Y, LC1240Y, LC1280XLY Ink

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<b>Inhalation</b>	Get immediate medical advice/attention. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
<b>Eye contact</b>	Get immediate medical advice/attention. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes.
<b>Skin contact:</b>	Take off contaminated clothing. Wash off immediately with soap and plenty of water.
<b>Ingestion</b>	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**

<b>Symptoms</b>	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**

<b>Note to physicians</b>	Treat symptomatically.
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### **Section 5: Firefighting measures**

#### **5.1. Extinguishing media**

**Suitable Extinguishing Media** Dry chemical, CO<sub>2</sub>, 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

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**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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>

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

**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

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<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	1 - 1.1	(H <sub>2</sub> O=1)
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	> 400 °C	
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	2 - 5 mPa s	
<b>Explosive properties</b>	Not explosive	No information available
<b>Oxidizing properties</b>	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 (CO<sub>2</sub>)

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

**Inhalation** No information available

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

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

<b>ATEmix (dermal)</b>	25,406.10 mg/kg
<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)
<b>Serious eye damage/eye irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	AMES test : Negative (OECD 471 method)
<b>Carcinogenicity</b>	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 mg/L LC50 static	-	500: 24 h Daphnia magna mg/L EC50
Triethylene glycol, monobutyl ether	500: 72 h Desmodium subspicatum 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.

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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

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**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,  
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**Key literature references and sources for data**

No information available

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**Revision Note** No information available

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

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