

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name (code)** LC10EBK(LK9896001), LC12EBK(LK9920001), LC15EBK(LK9908001), LC101BK(LK7322001), LC103BK(LK6537001), LC107BK(LK6576001), LC109BK(LK7597001), LC110BK(LK7507001), LC111BK(LK7475001), LC113BK(LK6868001), LC117BK(LK6900001), LC119BK(LK7598001), LC121BK(LK7370001), LC123BK(LK6810001), LC127XLBK(LK6924001), LC129XLBK(LK7599001), LC131BK(LK7406001), LC133BK(LK7242001), LC137XLBK(LK7209001), LC139XLBK(LK7600001), LC161BK(LK7652001), LC163BK(LK7656001), LC509BK(LK7725001), LC529XLBK(LK7729001), LC539XLBK(LK7733001), LC549XLBK(LK7738001), LC563BK(LK6970001), LC567XLBK(LK6974001), LC569XLBK(LK7723001), LC583BK(LK7001001), LC587XLBK(LK7005001), LC589XLBK(LK7724001), LC597XLBK(LK7017001), LC599XLBK(LK7737001)

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

**Relevant Identified 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. Information provided on this SDS is only consistent with the use specified by Brother.

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

**Importer (Canada)** Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

**Importer (Australia)** Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

**E-mail Address** sds.info@brother.co.jp

### 1.4 Emergency telephone number

**Emergency Telephone (24 hours)** CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK,  
LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK,  
LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK,  
LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK,  
LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK,  
LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK,  
LC597XLBK, LC599XLBK Ink

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

#### Classification according to OSHA GHS

Not classified as hazardous

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008

#### Hazard pictograms

None

#### Signal Word

None

#### Hazard Statements

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

#### Precautionary statements

None

### 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).

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name                | CAS-No    | EC-No     | w/w%   | Classification (67/548/EEC)                    | Classification (EU Reg. 1272/2008)  |
|------------------------------|-----------|-----------|--------|--|---|
| Glycerol                     | 56-81-5   | 200-289-5 | 5-15   | Not classified                                 | Not classified  |
| Carbon Black                 | 1333-86-4 | 215-609-9 | 1-10   | Not classified                                 | Not classified  |
| Diethylene glycol            | 111-46-6  | 203-872-2 | 1-9    | Xn; R22  | Acute Tox. 4 (H302)   |
| Water                        | 7732-18-5 | 231-791-2 | 60-70  | Not classified                                 | Not classified  |
| 1,2-benzisothiazol-3(2H)-one | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22<br>Xi; R41<br>Xi; R38<br>R43<br>N; R50 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

|                |  |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention.   |
| Inhalation     | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest.                       |
| Skin contact   | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.                          |
| Eye contact    | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.  
Eye contact: May cause eye irritation.  
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.  
Inhalation: Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable Extinguishing Media Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.

Unsuitable Extinguishing Media None.

### 5.2 Special hazards arising from the substance or mixture

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

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

Ensure adequate ventilation. Avoid contact with eyes.

### 6.2 Environmental precautions

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

### 6.3 Methods and materials for containment and cleaning up

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

### 6.4 Reference to other sections

For personal protection: See section 8.  
For disposal considerations: See section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

### 7.3 Specific end use(s)

These products are black ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control Parameters

#### Occupational Exposure Limits

| Chemical Name | Glycerol<br>56-81-5            |
|---------------|--------------------------------|
| ACGIH TLV     | TWA: 10 mg/m <sup>3</sup> mist |

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

|                           |   |
|---------------------------|---|
| <b>OSHA PEL</b>           | TWA: 15 mg/m <sup>3</sup> mist, total particulate<br>TWA: 5 mg/m <sup>3</sup> mist, respirable fraction     |
| <b>European Union</b>     | -   |
| <b>The United Kingdom</b> | STEL: 30 mg/m <sup>3</sup><br>TWA: 10 mg/m <sup>3</sup>   |
| <b>France</b>             | TWA: 10 mg/m <sup>3</sup>   |
| <b>Spain</b>              | TWA: 10 mg/m <sup>3</sup>   |
| <b>Germany</b>            | TWA: 50 mg/m <sup>3</sup><br>Ceiling / Peak: 100 mg/m <sup>3</sup>  |
| <b>Portugal</b>           | TWA: 10 mg/m <sup>3</sup>   |
| <b>Finland</b>            | TWA: 20 mg/m <sup>3</sup>   |
| <b>Switzerland</b>        | STEL: 100 mg/m <sup>3</sup><br>TWA: 50 mg/m <sup>3</sup>  |
| <b>Poland</b>             | TWA: 10 mg/m <sup>3</sup>   |
| <b>Ireland</b>            | TWA: 10 mg/m <sup>3</sup>   |
| <b>Chemical Name</b>      | <b>Carbon Black</b><br><b>1333-86-4</b>   |
| <b>ACGIH TLV</b>          | TWA: 3 mg/m <sup>3</sup> inhalable fraction   |
| <b>OSHA PEL</b>           | TWA: 3.5 mg/m <sup>3</sup>  |
| <b>European Union</b>     | -   |
| <b>The United Kingdom</b> | STEL: 7 mg/m <sup>3</sup><br>TWA: 3.5 mg/m <sup>3</sup>   |
| <b>France</b>             | TWA: 3.5 mg/m <sup>3</sup>  |
| <b>Spain</b>              | TWA: 3.5 mg/m <sup>3</sup>  |
| <b>Germany</b>            | Carc  |
| <b>Portugal</b>           | TWA: 3.5 mg/m <sup>3</sup>  |
| <b>Finland</b>            | TWA: 3.5 mg/m <sup>3</sup><br>STEL: 7 mg/m <sup>3</sup>   |
| <b>Denmark</b>            | TWA: 3.5 mg/m <sup>3</sup>  |
| <b>Poland</b>             | TWA: 4.0 mg/m <sup>3</sup>  |
| <b>Norway</b>             | TWA: 3.5 mg/m <sup>3</sup><br>STEL: 7 mg/m <sup>3</sup>   |
| <b>Ireland</b>            | TWA: 3.5 mg/m <sup>3</sup><br>STEL: 7 mg/m <sup>3</sup>   |
| <b>Chemical Name</b>      | <b>Diethylene glycol</b><br><b>111-46-6</b>   |
| <b>ACGIH TLV</b>          | -   |
| <b>OSHA PEL</b>           | -   |
| <b>European Union</b>     | -   |
| <b>The United Kingdom</b> | STEL: 69 ppm<br>STEL: 303 mg/m <sup>3</sup><br>TWA: 23 ppm<br>TWA: 101 mg/m <sup>3</sup>                    |
| <b>Germany</b>            | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup><br>Ceiling / Peak: 40 ppm<br>Ceiling / Peak: 176 mg/m <sup>3</sup> |
| <b>Denmark</b>            | TWA: 2.5 ppm<br>TWA: 11 mg/m <sup>3</sup>   |
| <b>Austria</b>            | STEL 40 ppm<br>STEL 176 mg/m <sup>3</sup><br>TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup>                       |
| <b>Switzerland</b>        | STEL: 40 ppm<br>STEL: 176 mg/m <sup>3</sup><br>TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup>                     |
| <b>Poland</b>             | TWA: 10 mg/m <sup>3</sup>   |

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|         |   |
|---------|---|
| Ireland | TWA: 23 ppm<br>TWA: 100 mg/m <sup>3</sup> |
|---------|---|

## 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 Protection Safety goggles.  
Hand Protection Protective gloves.  
Skin and body protection Long sleeved clothing and long pants.  
Respiratory protection 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                                       |
| pH   | 7 - 9  |
| Melting point/freezing point                 | - / < -5 °C  |
| Initial boiling point and boiling range      | > 100 °C   |
| Flash Point                                  | Not less than 93.3°C<br>( Tag closed cup; Cleveland open cup ) |
| Evaporation rate                             | No information available                                       |
| Flammability (solid, gas)                    | Not applicable   |
| Upper/lower flammability or explosive limits | No information available                                       |
| Vapor pressure                               | No information available                                       |
| Vapor density                                | No information available                                       |
| Relative density                             | 1.0 - 1.1 (H <sub>2</sub> O=1)                                 |
| Solubility(ies)                              | Soluble (water)  |
| Partition coefficient: n-octanol/water       | No information available                                       |
| Auto-ignition temperature                    | >400 °C  |
| Decomposition temperature                    | No information available                                       |
| Viscosity                                    | 2 - 5 mPa·s  |
| Explosive properties                         | Not explosive  |
| Oxidizing properties                         | No information available                                       |

### 9.2 Other information

No information available.

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

## SECTION 10: Stability and reactivity

|  |  |
|--|--|
| <b>10.1 Reactivity</b>                         | No information available.  |
| <b>10.2 Chemical stability</b>                 | Stable.  |
| <b>10.3 Possibility of hazardous reactions</b> | No information available.  |
| <b>10.4 Conditions to avoid</b>                | No information available.  |
| <b>10.5 Incompatible materials</b>             | Strong oxidizing agents.   |
| <b>10.6 Hazardous decomposition products</b>   | Contains: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). |

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

|              |  |
|--------------|--|
| Inhalation   | No information available.                        |
| Eye contact  | No information available.                        |
| Skin contact | No information available.                        |
| Ingestion    | LD <sub>50</sub> > 2000 mg/kg (Method: OECD#420) |

**Skin corrosion/irritation** Non-irritant. (Method: OECD#404)

**Serious eye damage/irritation** Minimal irritant to the eye. (Method: OECD#405)

**Respiratory or skin sensitisation** It is not a skin sensitizer. (Method: OECD#429)

**Mutagenicity** Negative. (Method: OECD#471)

**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.**

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

## SECTION 12: Ecological information

### 12.1 Toxicity

| Chemical Name                 | Toxicity to algae | Toxicity to fish  | Toxicity to daphnia and other aquatic invertebrates |
|-------------------------------|-------------------|---|---|
| Glycerol<br>56-81-5           |                   | LC <sub>50</sub> : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss)     | EC <sub>50</sub> : >500 mg/L 24 h (Daphnia magna)   |
| Carbon Black<br>1333-86-4     |                   |   | EC <sub>50</sub> : >5600 mg/L 24 h (Daphnia magna)  |
| Diethylene glycol<br>111-46-6 |                   | LC <sub>50</sub> : 75200 mg/L 96 h flow-through (Pimephales promelas) | EC <sub>50</sub> : 84000 mg/L 48 h (Daphnia magna)  |

**12.2 Persistence and degradability** No information available.

### 12.3 Bioaccumulative potential

| Chemical Name     | log Pow |
|-------------------|---------|
| Glycerol          | -1.76   |
| Diethylene glycol | -1.98   |

**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 of in accordance with Federal, State, and local regulations.

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

## SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

|  |                |
|--|----------------|
| <b>14.1 UN Number</b>  | None           |
| <b>14.2 UN proper shipping name</b>  | None           |
| <b>14.3 Transport hazard class(es)</b>   | None           |
| <b>14.4 Packing Group</b>  | None           |
| <b>14.5 Environmental hazards</b>  | None           |
| <b>14.6 Special precautions for user</b>   | None           |
| <b>14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code</b> | Not applicable |

Not regulated under DOT, IMDG, IATA.

## SECTION 15: Regulatory information

|  |   |
|--|---|
| <b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b> | <p><b>EU:</b> Not classified as dangerous for supply/use. (1999/45/EC)</p> <p><b>USA:</b> All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.</p> <p><b>Canada:</b> WHMIS: Not applicable. (Manufactured article)</p> |
| <b>15.2 Chemical Safety Assessment</b>   | No.   |

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK,  
LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK,  
LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK,  
LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK,  
LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK,  
LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK,  
LC597XLBK, LC599XLBK Ink

## SECTION 16: Other information

**Full text of R-phrases referred to under sections 2 and 3**

R22 - Harmful if swallowed  
R41 - Risk of serious damage to eyes  
R38 - Irritating to skin  
R43 - May cause sensitization by skin contact  
R50 - Very toxic to aquatic organisms

**Full text of H-Statements referred to under sections 2 and 3**

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

**Additional information**

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).

**Revision Note**

SECTION 1, 2

**References:**

U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens

**Abbreviations:**

ACGIH: American Conference of Governmental Industrial Hygienists  
DOT: Department Of Transportation (US)  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods  
NOHSC: National Occupational Health and Safety Commission (Australia)  
NTP: National Toxicology Program (US)  
OSHA: Occupational Safety and Health Administration (US)  
PEL: Permissible Exposure Limit  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Value (ACGIH)  
TSCA: Toxic Substances Control Act (US)  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Material Information System (Canada)

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

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name (code)** LC10EC(LK9897001), LC12EC(LK9921001), LC15EC(LK9909001), LC101C(LK7323001), LC103C(LK6538001), LC105C(LK6577001), LC110C(LK7508001), LC111C(LK7476001), LC113C(LK6869001), LC115C(LK6901001), LC121C(LK7371001), LC123C(LK6811001), LC125XLC(LK6925001), LC131C(LK7407001), LC133C(LK7243001), LC135XLC(LK7210001), LC161C(LK7653001), LC163C(LK7657001), LC505C(LK7726001), LC525XLC(LK7730001), LC535XLC(LK7734001), LC545XLC(LK7739001), LC563C(LK6971001), LC565XLC(LK6975001), LC583C(LK7002001), LC585XLC(LK7006001), LC595XLC(LK7018001)

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

**Relevant Identified 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. Information provided on this SDS is only consistent with the use specified by Brother.

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

**Importer (Canada)** Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

**Importer (Australia)** Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

**E-mail Address** sds.info@brother.co.jp

### 1.4 Emergency telephone number

**Emergency Telephone (24 hours)** CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

#### Classification according to OSHA GHS

Not classified as hazardous

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008

#### Hazard pictograms

None

#### Signal Word

None

#### Hazard Statements

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

#### Precautionary statements

None

### 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).

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name                      | CAS-No    | EC-No     | w/w%   | Classification (67/548/EEC)                    | Classification (EU Reg. 1272/2008)  |
|------------------------------------|-----------|-----------|--------|--|---|
| Glycerol                           | 56-81-5   | 200-289-5 | 10-20  | Not classified                                 | Not classified  |
| Diethylene glycol                  | 111-46-6  | 203-872-2 | 1-9    | Xn; R22  | Acute Tox. 4 (H302)   |
| Triethylene glycol monobutyl ether | 143-22-6  | 205-592-6 | 1-5    | Xi; R41  | Eye Dam. 1 (H318)   |
| Cyan Dye                           | *         | *         | 1-5    | Not classified                                 | Not classified  |
| Water                              | 7732-18-5 | 231-791-2 | 65-75  | Not classified                                 | Not classified  |
| 1,2-benzisothiazol-3(2H)-one       | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22<br>Xi; R41<br>Xi; R38<br>R43<br>N; R50 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

\* Registered

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

|                |  |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention.   |
| Inhalation     | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest.                       |
| Skin contact   | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.                          |
| Eye contact    | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.  
Eye contact: May cause eye irritation.  
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.  
Inhalation: Unlikely route of exposure.

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

Treat symptomatically.

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

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable Extinguishing Media Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.

Unsuitable Extinguishing Media None.

### 5.2 Special hazards arising from the substance or mixture

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

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

Ensure adequate ventilation. Avoid contact with eyes.

### 6.2 Environmental precautions

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

### 6.3 Methods and materials for containment and cleaning up

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

### 6.4 Reference to other sections

For personal protection: See section 8.  
For disposal considerations: See section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

### 7.3 Specific end use(s)

These products are dark blue ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control Parameters

#### Occupational Exposure Limits

| Chemical Name  | Glycerol<br>56-81-5   |
|----------------|---|
| ACGIH TLV      | TWA: 10 mg/m <sup>3</sup> mist  |
| OSHA PEL       | TWA: 15 mg/m <sup>3</sup> mist, total particulate<br>TWA: 5 mg/m <sup>3</sup> mist, respirable fraction |
| European Union | -   |

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

|                      |   |
|----------------------|---|
| The United Kingdom   | STEL: 30 mg/m <sup>3</sup><br>TWA: 10 mg/m <sup>3</sup>   |
| France               | TWA: 10 mg/m <sup>3</sup>   |
| Spain                | TWA: 10 mg/m <sup>3</sup>   |
| Germany              | TWA: 50 mg/m <sup>3</sup><br>Ceiling / Peak: 100 mg/m <sup>3</sup>  |
| Portugal             | TWA: 10 mg/m <sup>3</sup>   |
| Finland              | TWA: 20 mg/m <sup>3</sup>   |
| Switzerland          | STEL: 100 mg/m <sup>3</sup><br>TWA: 50 mg/m <sup>3</sup>  |
| Poland               | TWA: 10 mg/m <sup>3</sup>   |
| Ireland              | TWA: 10 mg/m <sup>3</sup>   |
| <b>Chemical Name</b> | <b>Diethylene glycol<br/>111-46-6</b>   |
| ACGIH TLV            | -   |
| OSHA PEL             | -   |
| European Union       | -   |
| The United Kingdom   | STEL: 69 ppm<br>STEL: 303 mg/m <sup>3</sup><br>TWA: 23 ppm<br>TWA: 101 mg/m <sup>3</sup>                    |
| Germany              | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup><br>Ceiling / Peak: 40 ppm<br>Ceiling / Peak: 176 mg/m <sup>3</sup> |
| Denmark              | TWA: 2.5 ppm<br>TWA: 11 mg/m <sup>3</sup>   |
| Austria              | STEL 40 ppm<br>STEL 176 mg/m <sup>3</sup><br>TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup>                       |
| Switzerland          | STEL: 40 ppm<br>STEL: 176 mg/m <sup>3</sup><br>TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup>                     |
| Poland               | TWA: 10 mg/m <sup>3</sup>   |
| Ireland              | TWA: 23 ppm<br>TWA: 100 mg/m <sup>3</sup>   |

## 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 Protection           | Safety goggles.  |
| Hand Protection          | Protective gloves.   |
| Skin and body protection | Long sleeved clothing and long pants.                            |
| Respiratory protection   | Large spillages: Wear suitable respiratory protective equipment. |

**Environmental Exposure Controls** Avoid release to the environment.

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

## 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                                       |
| pH   | 7 - 9  |
| Melting point/freezing point                 | - / < -5 °C  |
| Initial boiling point and boiling range      | > 100 °C   |
| Flash Point                                  | Not less than 93.3°C<br>( Tag closed cup; Cleveland open cup ) |
| Evaporation rate                             | No information available                                       |
| Flammability (solid, gas)                    | Not applicable   |
| Upper/lower flammability or explosive limits | No information available                                       |
| Vapor pressure                               | No information available                                       |
| Vapor density                                | No information available                                       |
| Relative density                             | 1.0 - 1.1 (H <sub>2</sub> O=1)                                 |
| Solubility(ies)                              | Soluble (water)  |
| Partition coefficient: n-octanol/water       | No information available                                       |
| Auto-ignition temperature                    | >400 °C  |
| Decomposition temperature                    | No information available                                       |
| Viscosity                                    | 2 - 5 mPa·s  |
| Explosive properties                         | Not explosive  |
| Oxidizing properties                         | No information available                                       |

### 9.2 Other information

No information available.

## SECTION 10: Stability and reactivity

|  |  |
|--|--|
| <b>10.1 Reactivity</b>                         | No information available.  |
| <b>10.2 Chemical stability</b>                 | Stable.  |
| <b>10.3 Possibility of hazardous reactions</b> | No information available.  |
| <b>10.4 Conditions to avoid</b>                | No information available.  |
| <b>10.5 Incompatible materials</b>             | Strong oxidizing agents.   |
| <b>10.6 Hazardous decomposition products</b>   | Contains: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). |

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

Issuing Date: 26-October-2011  
Revision Date: 22-June -2017  
Version: 6.1  
SDS No: BHC023-01-EUUSOTHER

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

|              |  |
|--------------|--|
| Inhalation   | No information available.                        |
| Eye contact  | No information available.                        |
| Skin contact | No information available.                        |
| Ingestion    | LD <sub>50</sub> > 2000 mg/kg (Method: OECD#420) |

**Skin corrosion/irritation** Non-irritant. (Method: OECD#404)

**Serious eye damage/irritation** Minimal irritant to the eye. (Method: OECD#405)

**Respiratory or skin sensitisation** It is not a skin sensitizer. (Method: OECD#429)

**Mutagenicity** Negative. (Method: OECD#471)

**Carcinogenicity** **Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA**

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

## SECTION 12: Ecological information

### 12.1 Toxicity

| Chemical Name                                  | Toxicity to algae   | Toxicity to fish  | Toxicity to daphnia and other aquatic invertebrates |
|--|---|---|---|
| Glycerol<br>56-81-5                            |   | LC <sub>50</sub> : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss)   | EC <sub>50</sub> : >500 mg/L 24 h (Daphnia magna)   |
| Diethylene glycol<br>111-46-6                  |   | LC <sub>50</sub> : 75200 mg/L 96 h flow-through (Pimephales promelas)   | EC <sub>50</sub> : 84000 mg/L 48 h (Daphnia magna)  |
| Triethylene glycol monobutyl ether<br>143-22-6 | EC <sub>50</sub> : >500 mg/L 72 h (Desmodesmus subspicatus) | LC <sub>50</sub> : 2200 - 4600 mg/L 96 h static (Leuciscus idus)<br>LC <sub>50</sub> : 2400 mg/L 96 h static (Pimephales promelas)<br>LC <sub>50</sub> : 2400 mg/L 96 h (Pimephales promelas) | EC <sub>50</sub> : >500 mg/L 48 h (Daphnia magna)   |

**12.2 Persistence and degradability** No information available.

### 12.3 Bioaccumulative potential

| Chemical Name                      | log Pow |
|------------------------------------|---------|
| Glycerol                           | -1.76   |
| Diethylene glycol                  | -1.98   |
| Triethylene glycol monobutyl ether | 0.51    |

**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 of in accordance with Federal, State, and local regulations.

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

## SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

|   |                |
|---|----------------|
| 14.1 UN Number  | None           |
| 14.2 UN proper shipping name  | None           |
| 14.3 Transport hazard class(es)   | None           |
| 14.4 Packing Group  | None           |
| 14.5 Environmental hazards  | None           |
| 14.6 Special precautions for user   | None           |
| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code | Not applicable |

Not regulated under DOT, IMDG, IATA.

## SECTION 15: Regulatory information

|   |   |
|---|---|
| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture | <p><b>EU:</b> Not classified as dangerous for supply/use. (1999/45/EC)</p> <p><b>USA:</b> All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.</p> <p><b>Canada:</b> WHMIS: Not applicable. (Manufactured article)</p> |
| 15.2 Chemical Safety Assessment   | No.   |

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

## SECTION 16: Other information

**Full text of R-phrases referred to under sections 2 and 3**

R22 - Harmful if swallowed  
R41 - Risk of serious damage to eyes  
R38 - Irritating to skin  
R43 - May cause sensitization by skin contact  
R50 - Very toxic to aquatic organisms

**Full text of H-Statements referred to under sections 2 and 3**

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

**Additional information**

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).

**Revision Note**

SECTION 1, 2.

**References:**

U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens

**Abbreviations:**

ACGIH: American Conference of Governmental Industrial Hygienists  
DOT: Department Of Transportation (US)  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods  
NOHSC: National Occupational Health and Safety Commission (Australia)  
NTP: National Toxicology Program (US)  
OSHA: Occupational Safety and Health Administration (US)  
PEL: Permissible Exposure Limit  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Value (ACGIH)  
TSCA: Toxic Substances Control Act (US)  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Material Information System (Canada)

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name (code)** LC10EM(LK9898001), LC12EM(LK9922001), LC15EM(LK9910001), LC101M(LK7324001), LC103M(LK6539001), LC105M(LK6578001), LC110M(LK7509001), LC111M(LK7477001), LC113M(LK6870001), LC115M(LK6902001), LC121M(LK7372001), LC123M(LK6812001), LC125XLM(LK6926001), LC131M(LK7408001), LC133M(LK7244001), LC135XLM(LK7211001), LC161M(LK7654001), LC163M(LK7658001), LC505M(LK7727001), LC525XLM(LK7731001), LC535XLM(LK7735001), LC545XLM(LK7740001), LC563M(LK6972001), LC565XLM(LK6976001), LC583M(LK7003001), LC585XLM(LK7007001), LC595XLM(LK7019001)

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

**Relevant Identified 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. Information provided on this SDS is only consistent with the use specified by Brother.

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

**Importer (Canada)** Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

**Importer (Australia)** Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

**E-mail Address** sds.info@brother.co.jp

### 1.4 Emergency telephone number

**Emergency Telephone (24 hours)** CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

#### Classification according to OSHA GHS

Not classified as hazardous

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008

#### Hazard pictograms

None

#### Signal Word

None

#### Hazard Statements

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

#### Precautionary statements

None

### 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).

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name                | CAS-No    | EC-No     | w/w%   | Classification (67/548/EEC)                    | Classification (EU Reg. 1272/2008)  |
|------------------------------|-----------|-----------|--------|--|---|
| Glycerol                     | 56-81-5   | 200-289-5 | 10-20  | Not classified                                 | Not classified  |
| Magenta Dye                  | *         | *         | <2.5   | N; R51/53                                      | Aquatic Chronic 2 (H411)  |
| Water                        | 7732-18-5 | 231-791-2 | 65-80  | Not classified                                 | Not classified  |
| 1,2-benzisothiazol-3(2H)-one | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22<br>Xi; R41<br>Xi; R38<br>R43<br>N; R50 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

\* Registered

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

|                |  |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention.   |
| Inhalation     | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest.                       |
| Skin contact   | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.                          |
| Eye contact    | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.  
Eye contact: May cause eye irritation.  
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.  
Inhalation: Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable Extinguishing Media Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.

Unsuitable Extinguishing Media None.

### 5.2 Special hazards arising from the substance or mixture

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

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

Ensure adequate ventilation. Avoid contact with eyes.

### 6.2 Environmental precautions

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

### 6.3 Methods and materials for containment and cleaning up

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

### 6.4 Reference to other sections

For personal protection: See section 8.  
For disposal considerations: See section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

### 7.3 Specific end use(s)

These products are dark red ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control Parameters

#### Occupational Exposure Limits

| Chemical Name  | Glycerol<br>56-81-5   |
|----------------|---|
| ACGIH TLV      | TWA: 10 mg/m <sup>3</sup> mist  |
| OSHA PEL       | TWA: 15 mg/m <sup>3</sup> mist, total particulate<br>TWA: 5 mg/m <sup>3</sup> mist, respirable fraction |
| European Union | -   |

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

|                           |  |
|---------------------------|--|
| <b>The United Kingdom</b> | STEL: 30 mg/m <sup>3</sup><br>TWA: 10 mg/m <sup>3</sup>            |
| <b>France</b>             | TWA: 10 mg/m <sup>3</sup>  |
| <b>Spain</b>              | TWA: 10 mg/m <sup>3</sup>  |
| <b>Germany</b>            | TWA: 50 mg/m <sup>3</sup><br>Ceiling / Peak: 100 mg/m <sup>3</sup> |
| <b>Portugal</b>           | TWA: 10 mg/m <sup>3</sup>  |
| <b>Finland</b>            | TWA: 20 mg/m <sup>3</sup>  |
| <b>Switzerland</b>        | STEL: 100 mg/m <sup>3</sup><br>TWA: 50 mg/m <sup>3</sup>           |
| <b>Poland</b>             | TWA: 10 mg/m <sup>3</sup>  |
| <b>Ireland</b>            | TWA: 10 mg/m <sup>3</sup>  |

## 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 Protection           | Safety goggles.  |
| Hand Protection          | Protective gloves.   |
| Skin and body protection | Long sleeved clothing and long pants.                            |
| Respiratory protection   | Large spillages: Wear suitable respiratory protective equipment. |

**Environmental Exposure Controls** Avoid release to the environment.

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

## 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                                       |
| pH   | 7 - 9  |
| Melting point/freezing point                 | - / < -5 °C  |
| Initial boiling point and boiling range      | > 100 °C   |
| Flash Point                                  | Not less than 93.3°C<br>( Tag closed cup; Cleveland open cup ) |
| Evaporation rate                             | No information available                                       |
| Flammability (solid, gas)                    | Not applicable   |
| Upper/lower flammability or explosive limits | No information available                                       |
| Vapor pressure                               | No information available                                       |
| Vapor density                                | No information available                                       |
| Relative density                             | 1.0 - 1.1 (H <sub>2</sub> O=1)                                 |
| Solubility(ies)                              | Soluble (water)  |
| Partition coefficient: n-octanol/water       | No information available                                       |
| Auto-ignition temperature                    | >400 °C  |
| Decomposition temperature                    | No information available                                       |
| Viscosity                                    | 2 - 5 mPa·s  |
| Explosive properties                         | Not explosive  |
| 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.  |
| 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   | Contains: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). |

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Inhalation No information available.  
Eye contact No information available.  
Skin contact No information available.  
Ingestion LD<sub>50</sub> > 2000 mg/kg (Method: OECD#420)

**Skin corrosion/irritation** Non-irritant. (Method: OECD#404)

**Serious eye damage/irritation** Minimal irritant to the eye. (Method: OECD#405)

**Respiratory or skin sensitisation** It is not a skin sensitizer. (Method: OECD#429)

**Mutagenicity** Negative. (Method: OECD#471)

**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

| Chemical Name       | Toxicity to algae | Toxicity to fish  | Toxicity to daphnia and other aquatic invertebrates |
|---------------------|-------------------|---|---|
| Glycerol<br>56-81-5 |                   | LC <sub>50</sub> : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss) | EC <sub>50</sub> : >500 mg/L 24 h (Daphnia magna)   |

**12.2 Persistence and degradability** No information available.

### 12.3 Bioaccumulative potential

| Chemical Name | log Pow |
|---------------|---------|
| Glycerol      | -1.76   |

**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 of in accordance with Federal, State, and local regulations.

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

## SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

|  |                |
|--|----------------|
| <b>14.1 UN Number</b>  | None           |
| <b>14.2 UN proper shipping name</b>  | None           |
| <b>14.3 Transport hazard class(es)</b>   | None           |
| <b>14.4 Packing Group</b>  | None           |
| <b>14.5 Environmental hazards</b>  | None           |
| <b>14.6 Special precautions for user</b>   | None           |
| <b>14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code</b> | Not applicable |

Not regulated under DOT, IMDG, IATA.

## SECTION 15: Regulatory information

|  |   |
|--|---|
| <b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b> | <p><b>EU:</b> Not classified as dangerous for supply/use. (1999/45/EC)</p> <p><b>USA:</b> All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.</p> <p><b>Canada:</b> WHMIS: Not applicable. (Manufactured article)</p> |
| <b>15.2 Chemical Safety Assessment</b>   | No.   |

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M,  
LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M,  
LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M,  
LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM,  
LC583M, LC585XLM, LC595XLM Ink

## SECTION 16: Other information

**Full text of R-phrases referred to under sections 2 and 3**

R22 - Harmful if swallowed  
R41 - Risk of serious damage to eyes  
R38 - Irritating to skin  
R43 - May cause sensitization by skin contact  
R50 - Very toxic to aquatic organisms  
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H317 - May cause an allergic skin reaction  
H400 - Very toxic to aquatic life  
H411 - Toxic to aquatic life with long lasting effects

**Additional information**

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).

**Revision Note**

SECTION 1, 2.

**References:**

U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens

**Abbreviations:**

ACGIH: American Conference of Governmental Industrial Hygienists  
DOT: Department Of Transportation (US)  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods  
NOHSC: National Occupational Health and Safety Commission (Australia)  
NTP: National Toxicology Program (US)  
OSHA: Occupational Safety and Health Administration (US)  
PEL: Permissible Exposure Limit  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Value (ACGIH)  
TSCA: Toxic Substances Control Act (US)  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Material Information System (Canada)

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y,  
LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y,  
LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y,  
LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y,  
LC585XLY, LC595XLY Ink

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name (code)** LC10EY(LK9899001), LC12EY(LK9923001), LC15EY(LK9911001), LC101Y(LK7325001),  
LC103Y(LK6540001), LC105Y(LK6579001), LC110Y(LK7510001), LC111Y(LK7478001),  
LC113Y(LK6871001), LC115Y(LK6903001), LC121Y(LK7373001), LC123Y(LK6813001),  
LC125XLY(LK6927001), LC131Y(LK7409001), LC133Y(LK7245001), LC135XLY(LK7212001),  
LC161Y(LK7655001), LC163Y(LK7659001), LC505Y(LK7728001), LC525XLY(LK7732001),  
LC535XLY(LK7736001), LC545XLY(LK7741001), LC563Y(LK6973001), LC565XLY(LK6977001),  
LC583Y(LK7004001), LC585XLY(LK7008001), LC595XLY(LK7020001)

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

**Relevant Identified 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. Information provided on this SDS is only consistent with the use specified by Brother.

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

**Importer (Canada)** Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

**Importer (Australia)** Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

**E-mail Address** sds.info@brother.co.jp

### 1.4 Emergency telephone number

**Emergency Telephone (24 hours)** CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

#### Classification according to OSHA GHS

Not classified as hazardous

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008

#### Hazard pictograms

None

#### Signal Word

None

#### Hazard Statements

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

#### Precautionary statements

None

### 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).

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name                      | CAS-No    | EC-No     | w/w%   | Classification (67/548/EEC)                    | Classification (EU Reg. 1272/2008)  |
|------------------------------------|-----------|-----------|--------|--|---|
| Glycerol                           | 56-81-5   | 200-289-5 | 5-15   | Not classified                                 | Not classified  |
| Triethylene glycol monobutyl ether | 143-22-6  | 205-592-6 | 1-5    | Xi; R41  | Eye Dam. 1 (H318)   |
| Yellow Dye                         | *         | *         | ≤5     | Not classified                                 | Not classified  |
| Water                              | 7732-18-5 | 231-791-2 | 65-80  | Not classified                                 | Not classified  |
| 1,2-benzisothiazol-3(2H)-one       | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22<br>Xi; R41<br>Xi; R38<br>R43<br>N; R50 | Acute Tox. 4 (Oral), H302<br>Skin Irrit. 2, H315<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

\* Registered

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

|                |  |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention.   |
| Inhalation     | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest.                       |
| Skin contact   | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.                          |
| Eye contact    | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.  
Eye contact: May cause eye irritation.  
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.  
Inhalation: Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable Extinguishing Media Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.

Unsuitable Extinguishing Media None.

### 5.2 Special hazards arising from the substance or mixture

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

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

Ensure adequate ventilation. Avoid contact with eyes.

### 6.2 Environmental precautions

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

### 6.3 Methods and materials for containment and cleaning up

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

### 6.4 Reference to other sections

For personal protection: See section 8.  
For disposal considerations: See section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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

### 7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

### 7.3 Specific end use(s)

These products are dark yellow ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control Parameters

#### Occupational Exposure Limits

| Chemical Name  | Glycerol<br>56-81-5   |
|----------------|---|
| ACGIH TLV      | TWA: 10 mg/m <sup>3</sup> mist  |
| OSHA PEL       | TWA: 15 mg/m <sup>3</sup> mist, total particulate<br>TWA: 5 mg/m <sup>3</sup> mist, respirable fraction |
| European Union | -   |

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

|                           |  |
|---------------------------|--|
| <b>The United Kingdom</b> | STEL: 30 mg/m <sup>3</sup><br>TWA: 10 mg/m <sup>3</sup>            |
| <b>France</b>             | TWA: 10 mg/m <sup>3</sup>  |
| <b>Spain</b>              | TWA: 10 mg/m <sup>3</sup>  |
| <b>Germany</b>            | TWA: 50 mg/m <sup>3</sup><br>Ceiling / Peak: 100 mg/m <sup>3</sup> |
| <b>Portugal</b>           | TWA: 10 mg/m <sup>3</sup>  |
| <b>Finland</b>            | TWA: 20 mg/m <sup>3</sup>  |
| <b>Switzerland</b>        | STEL: 100 mg/m <sup>3</sup><br>TWA: 50 mg/m <sup>3</sup>           |
| <b>Poland</b>             | TWA: 10 mg/m <sup>3</sup>  |
| <b>Ireland</b>            | TWA: 10 mg/m <sup>3</sup>  |

## 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 Protection           | Safety goggles.  |
| Hand Protection          | Protective gloves.   |
| Skin and body protection | Long sleeved clothing and long pants.                            |
| Respiratory protection   | Large spillages: Wear suitable respiratory protective equipment. |

**Environmental Exposure Controls** Avoid release to the environment.

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

## 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                                       |
| pH   | 7 - 9  |
| Melting point/freezing point                 | - / < -5 °C  |
| Initial boiling point and boiling range      | > 100 °C   |
| Flash Point                                  | Not less than 93.3°C<br>( Tag closed cup; Cleveland open cup ) |
| Evaporation rate                             | No information available                                       |
| Flammability (solid, gas)                    | Not applicable   |
| Upper/lower flammability or explosive limits | No information available                                       |
| Vapor pressure                               | No information available                                       |
| Vapor density                                | No information available                                       |
| Relative density                             | 1.0 - 1.1 (H <sub>2</sub> O=1)                                 |
| Solubility(ies)                              | Soluble (water)  |
| Partition coefficient: n-octanol/water       | No information available                                       |
| Auto-ignition temperature                    | >400 °C  |
| Decomposition temperature                    | No information available                                       |
| Viscosity                                    | 2 - 5 mPa·s  |
| Explosive properties                         | Not explosive  |
| 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.  |
| 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   | Contains: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). |

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y,  
LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y,  
LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y,  
LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y,  
LC585XLY, LC595XLY Ink

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Version: 6.1  
SDS No: BHY023-01-EUUSOTHER

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

|              |  |
|--------------|--|
| Inhalation   | No information available.                        |
| Eye contact  | No information available.                        |
| Skin contact | No information available.                        |
| Ingestion    | LD <sub>50</sub> > 2000 mg/kg (Method: OECD#420) |

**Skin corrosion/irritation** Non-irritant. (Method: OECD#404)

**Serious eye damage/irritation** Minimal irritant to the eye. (Method: OECD#405)

**Respiratory or skin sensitisation** It is not a skin sensitizer. (Method: OECD#429)

**Mutagenicity** Negative. (Method: OECD#471)

**Carcinogenicity** **Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA**

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

## SECTION 12: Ecological information

### 12.1 Toxicity

| Chemical Name                                  | Toxicity to algae   | Toxicity to fish  | Toxicity to daphnia and other aquatic invertebrates |
|--|---|---|---|
| Glycerol<br>56-81-5                            |   | LC <sub>50</sub> : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss)   | EC <sub>50</sub> : >500 mg/L 24 h (Daphnia magna)   |
| Triethylene glycol monobutyl ether<br>143-22-6 | EC <sub>50</sub> : >500 mg/L 72 h (Desmodesmus subspicatus) | LC <sub>50</sub> : 2200 - 4600 mg/L 96 h static (Leuciscus idus)<br>LC <sub>50</sub> : 2400 mg/L 96 h static (Pimephales promelas)<br>LC <sub>50</sub> : 2400 mg/L 96 h (Pimephales promelas) | EC <sub>50</sub> : >500 mg/L 48 h (Daphnia magna)   |

**12.2 Persistence and degradability** No information available.

### 12.3 Bioaccumulative potential

| Chemical Name                      | log Pow |
|------------------------------------|---------|
| Glycerol                           | -1.76   |
| Triethylene glycol monobutyl ether | 0.51    |

**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 of in accordance with Federal, State, and local regulations.

## SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

**14.1 UN Number** None

**14.2 UN proper shipping name** None

**14.3 Transport hazard class(es)** None

**14.4 Packing Group** None

**14.5 Environmental hazards** None

**14.6 Special precautions for user** None

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

Not regulated under DOT, IMDG, IATA.

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

## SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- EU:** Not classified as dangerous for supply/use. (1999/45/EC)  
**USA:** All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.  
**Canada:** WHMIS: Not applicable. (Manufactured article)
- 15.2 Chemical Safety Assessment** No.

## SECTION 16: Other information

- Full text of R-phrases referred to under sections 2 and 3**
- R22 - Harmful if swallowed  
R41 - Risk of serious damage to eyes  
R38 - Irritating to skin  
R43 - May cause sensitization by skin contact  
R50 - Very toxic to aquatic organisms
- Full text of H-Statements referred to under sections 2 and 3**
- H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H317 - May cause an allergic skin reaction  
H400 - Very toxic to aquatic life
- Additional information**
- 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).
- Revision Note**
- SECTION 1, 2.
- References:**
- U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens
- Abbreviations:**
- ACGIH: American Conference of Governmental Industrial Hygienists  
DOT: Department Of Transportation (US)  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods  
NOHSC: National Occupational Health and Safety Commission (Australia)  
NTP: National Toxicology Program (US)  
OSHA: Occupational Safety and Health Administration (US)  
PEL: Permissible Exposure Limit  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Value (ACGIH)  
TSCA: Toxic Substances Control Act (US)  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Material Information System (Canada)