

Product name: LC201BK, LC203BK, LC207BK, LC209BK, LC211BK,  
LC213BK, LC217BK, LC219BK, LC221BK, LC223BK, LC227XLBK,  
LC229XLBK, LC231BK, LC233BK, LC237XLBK, LC239XLBK,  
LC261BK, LC263BK, LC609BK, LC629BK, LC639BK, LC649BK,  
LC663BK, LC667XLBK, LC669XLBK, LC673BK, LC677XLBK,  
LC679XLBK, LC683BK, LC687XLBK, LC689XLBK, LC691BK,  
LC693BK, LC697XLBK, LC699XLBK, LC20EBK, LC21EBK,  
LC22EBK, LC22UBK, LC23EBK Ink

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

### 1.1. Product identifier

Product Name (Product code) : LC201BK(LK9288001), LC203BK(LK7746001), LC207BK(LK8308001), LC209BK(LK8377001),  
LC211BK(LK9344001), LC213BK(LK8546001), LC217BK(LK8644001), LC219BK(LK8653001),  
LC221BK(LK9316001), LC223BK(LK8386001), LC227XLBK(LK8418001),  
LC229XLBK(LK8447001), LC231BK(LKB286001), LC233BK(LK8896001),  
LC237XLBK(LK8920001), LC239XLBK(LK8989001), LC261BK(LKB322001),  
LC263BK(LKB262001), LC609BK, LC629BK, LC639BK, LC649BK, LC663BK(LK8944001),  
LC667XLBK(LK8968001), LC669XLBK(LK8992001), LC673BK(LK9076001),  
LC677XLBK(LK9046001), LC679XLBK(LK9067001), LC683BK, LC687XLBK, LC689XLBK,  
LC691BK, LC693BK, LC697XLBK, LC699XLBK(LK9667001), LC20EBK(LK9832001),  
LC21EBK(LKB781001), LC22EBK(LK9844001), LC22UBK(LKB769001), LC23EBK(LKB449001)

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (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 number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

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**Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]**

Not classified

**Australia Classification**

Not classified as hazardous according to the criteria of NOHSC

**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

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 substance/mixture does not meet the PBT criteria of REACH, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

**SECTION 3: Composition/information on ingredients**

**3.2. Mixture**

| Name                         | Product identifier  | %      | Classification according to Directive 67/548/EEC | Classification according to Regulation (EC) No. 1272/2008 [CLP]   |
|------------------------------|---|--------|--|---|
| glycerol                     | (CAS No) 56-81-5<br>(EC no) 200-289-5                                 | 5-15   | Not classified                                   | Not classified  |
| Carbon Black                 | (CAS No) 1333-86-4<br>(EC no) 215-609-9                               | 1-10   | Not classified                                   | Not classified  |
| Diethylene glycol            | (CAS No) 111-46-6<br>(EC no) 203-872-2<br>(EC index no) 603-140-00-6  | 1-9    | Xn; R22  | Acute Tox. 4 (Oral), H302   |
| Water                        | (CAS No) 7732-18-5<br>(EC no) 231-791-2                               | 60-70  | Not classified                                   | Not classified  |
| 1,2-benzisothiazol-3(2H)-one | (CAS No) 2634-33-5<br>(EC no) 220-120-9<br>(EC index no) 613-088-00-6 | < 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 |

\*Registered

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

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If symptoms persist, obtain medical attention.
- First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.
- First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.
- First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.
- First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.
- Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.
- Symptoms/injuries after eye contact : May cause eye irritation.
- Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

## 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

- Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.
- Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters. Combustion products: See Section: 10.

### 5.3. Advice for firefighters

- Firefighting instructions : 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

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

- 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 material for containment and cleaning up

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

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

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

Storage conditions : Keep away from oxidizing agents.

### 7.3. Specific end use(s)

Cartridge containing water based ink for inkjet printing machine.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| glycerol (56-81-5) |  |  |
|--------------------|--|--|
| Belgium            | Local name                                   | Glycérine (brouillard)   |
| Belgium            | Limit value (mg/m <sup>3</sup> )             | 10 mg/m <sup>3</sup>   |
| Czech Republic     | Local name                                   | Glycerol, mlha   |
| Czech Republic     | Exposure limits (PEL) (mg/m <sup>3</sup> )   | 10 mg/m <sup>3</sup>   |
| Czech Republic     | Exposure limits (PEL) (ppm)                  | 2.4 ppm  |
| Czech Republic     | Exposure limits (NPK-P) (mg/m <sup>3</sup> ) | 15 mg/m <sup>3</sup>   |
| Czech Republic     | Exposure limits (NPK-P) (ppm)                | 3.7 ppm  |
| Finland            | Local name                                   | Glyseroli  |
| Finland            | HTP-arvo (8h) (mg/m <sup>3</sup> )           | 20 mg/m <sup>3</sup>   |
| France             | Local name                                   | Glycérine (aérosols de)  |
| France             | VME (mg/m <sup>3</sup> )                     | 10 mg/m <sup>3</sup>   |
| Ireland            | Local name                                   | Glycerol, mist   |
| Ireland            | OEL (8 hours ref) (mg/m <sup>3</sup> )       | 10 mg/m <sup>3</sup>   |
| Poland             | Local name                                   | Glicerol aerozole  |
| Poland             | NDS (mg/m <sup>3</sup> )                     | 10 mg/m <sup>3</sup>   |
| Portugal           | Local name                                   | Glicerina, névoas  |
| Portugal           | OEL TWA (mg/m <sup>3</sup> )                 | 10 mg/m <sup>3</sup>   |
| United Kingdom     | Local name                                   | Glycerol, mist   |
| United Kingdom     | WEL TWA (mg/m <sup>3</sup> )                 | 10 mg/m <sup>3</sup>   |
| USA - ACGIH        | Local name                                   | Glycerin mist  |
| USA - ACGIH        | ACGIH TWA (mg/m <sup>3</sup> )               | 10 mg/m <sup>3</sup> mist  |
| USA - ACGIH        | Remark (ACGIH)                               | URT irr  |
| USA - OSHA         | OSHA PEL (TWA) (mg/m <sup>3</sup> )          | 15 mg/m <sup>3</sup> Total dust<br>5 mg/m <sup>3</sup> Respirable Fraction |

| Carbon Black (1333-86-4) |  |                       |
|--------------------------|--|-----------------------|
| Belgium                  | Local name                             | Carbone (noir de)     |
| Belgium                  | Limit value (mg/m <sup>3</sup> )       | 3.5 mg/m <sup>3</sup> |
| Denmark                  | Local name                             | Carbon black          |
| Denmark                  | Limit (long-term) (mg/m <sup>3</sup> ) | 3.5 mg/m <sup>3</sup> |
| Denmark                  | Anmærkninger (DK)                      | K                     |
| Finland                  | Local name                             | Nokimusta             |
| Finland                  | HTP-arvo (8h) (mg/m <sup>3</sup> )     | 3.5 mg/m <sup>3</sup> |
| Finland                  | HTP-arvo (15 min)                      | 7 mg/m <sup>3</sup>   |
| France                   | Local name                             | Noir de carbone       |

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| <b>Carbon Black (1333-86-4)</b> |  |                                |
|---------------------------------|--|--------------------------------|
| France                          | VME (mg/m <sup>3</sup> )               | 3.5 mg/m <sup>3</sup>          |
| Ireland                         | Local name                             | Carbon black                   |
| Ireland                         | OEL (8 hours ref) (mg/m <sup>3</sup> ) | 3.5 mg/m <sup>3</sup>          |
| Ireland                         | OEL (15 min ref) (mg/m <sup>3</sup> )  | 7 mg/m <sup>3</sup>            |
| Portugal                        | Local name                             | Carbono, preto (Negro de fumo) |
| Portugal                        | OEL TWA (mg/m <sup>3</sup> )           | 3.5 mg/m <sup>3</sup>          |
| Spain                           | Local name                             | Negro de humo                  |
| Spain                           | VLA-ED (mg/m <sup>3</sup> )            | 3.5 mg/m <sup>3</sup>          |
| Spain                           | Notes                                  | véase Apartado 9               |
| United Kingdom                  | Local name                             | Carbon black                   |
| United Kingdom                  | WEL TWA (mg/m <sup>3</sup> )           | 3.5 mg/m <sup>3</sup>          |
| United Kingdom                  | WEL STEL (mg/m <sup>3</sup> )          | 7 mg/m <sup>3</sup>            |
| Norway                          | Local name                             | Carbon Black (lampesot)        |
| Norway                          | TWA (AN) (mg/m <sup>3</sup> )          | 3.5 mg/m <sup>3</sup>          |
| USA - ACGIH                     | Local name                             | Carbon black                   |
| USA - ACGIH                     | ACGIH TWA (mg/m <sup>3</sup> )         | 3 mg/m <sup>3</sup>            |
| USA - ACGIH                     | Remark (ACGIH)                         | Bronchitis                     |
| USA - OSHA                      | Local name                             | Carbon black                   |
| USA - OSHA                      | OSHA PEL (TWA) (mg/m <sup>3</sup> )    | 3.5 mg/m <sup>3</sup>          |

| <b>Diethylene glycol (111-46-6)</b> |   |   |
|-------------------------------------|---|---|
| Austria                             | Local name  | Diethylenglykol   |
| Austria                             | MAK (mg/m <sup>3</sup> )  | 44 mg/m <sup>3</sup>  |
| Austria                             | MAK (ppm)   | 10 ppm  |
| Austria                             | MAK Short time value (mg/m <sup>3</sup> )                       | 176 mg/m <sup>3</sup>   |
| Austria                             | MAK Short time value (ppm)                                      | 40 ppm  |
| Denmark                             | Local name  | Diethylenglycol   |
| Denmark                             | Limit (long-term) (mg/m <sup>3</sup> )                          | 11 mg/m <sup>3</sup>  |
| Denmark                             | Limit (long-term) (ppm)   | 2.5 ppm   |
| Germany                             | Local name  | 2,2'-Oxydiethanol   |
| Germany                             | TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> ) | 44 mg/m <sup>3</sup>  |
| Germany                             | TRGS 900 Occupational exposure limit value (ppm)                | 10 ppm  |
| Germany                             | Remark (TRGS 900)   | DFG, Y  |
| Ireland                             | Local name  | Diethylene glycol   |
| Ireland                             | OEL (8 hours ref) (mg/m <sup>3</sup> )                          | 100 mg/m <sup>3</sup>   |
| Ireland                             | OEL (8 hours ref) (ppm)   | 23 ppm  |
| Latvia                              | Local name  | Dietilēnglikols<br>(2,2'oksibisetanols, 2,2'dihidroksidietilēteris) |
| Latvia                              | OEL TWA (mg/m <sup>3</sup> )                                    | 10 mg/m <sup>3</sup>  |
| Lithuania                           | Local name  | 2,2-oksidietanolis (dietilengl kolis, diglikolis)                   |
| Lithuania                           | IPRV (mg/m <sup>3</sup> )                                       | 45 mg/m <sup>3</sup>  |
| Lithuania                           | IPRV (ppm)  | 10 ppm  |
| Lithuania                           | TPRV (mg/m <sup>3</sup> )                                       | 90 mg/m <sup>3</sup>  |
| Lithuania                           | TPRV (ppm)  | 20 ppm  |
| Lithuania                           | Remark (LT)   | O   |
| Poland                              | Local name  | 2,2'-Oksydietanol (glikol dwuetylenowy) aerozol                     |

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| <b>Diethylene glycol (111-46-6)</b> |   |                       |
|-------------------------------------|---|-----------------------|
| Poland                              | NDS (mg/m <sup>3</sup> )                  | 10 mg/m <sup>3</sup>  |
| Romania                             | Local name                                | Dietilenglicol        |
| Romania                             | OEL TWA (mg/m <sup>3</sup> )              | 500 mg/m <sup>3</sup> |
| Romania                             | OEL TWA (ppm)                             | 115 ppm               |
| Romania                             | OEL STEL (mg/m <sup>3</sup> )             | 800 mg/m <sup>3</sup> |
| Romania                             | OEL STEL (ppm)                            | 184 ppm               |
| Spain                               | Local name                                | Dietilenglicol        |
| Spain                               | VLA-ED (mg/m <sup>3</sup> )               | 44 mg/m <sup>3</sup>  |
| Spain                               | VLA-ED (ppm)                              | 10 ppm                |
| Spain                               | VLA-EC (mg/m <sup>3</sup> )               | 176 mg/m <sup>3</sup> |
| Spain                               | VLA-EC (ppm)                              | 40 ppm                |
| Sweden                              | Local name                                | Diethylene glycol     |
| Sweden                              | nivågränsvärde (NVG) (mg/m <sup>3</sup> ) | 45 mg/m <sup>3</sup>  |
| Sweden                              | nivågränsvärde (NVG) (ppm)                | 10 ppm                |
| Sweden                              | kortidsvärde (KTV) (mg/m <sup>3</sup> )   | 90 mg/m <sup>3</sup>  |
| Sweden                              | kortidsvärde (KTV) (ppm)                  | 20 ppm                |
| United Kingdom                      | Local name                                | 2,2'-Oxydiethanol     |
| United Kingdom                      | WEL TWA (mg/m <sup>3</sup> )              | 101 mg/m <sup>3</sup> |
| United Kingdom                      | WEL TWA (ppm)                             | 23 ppm                |

## 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: |
| Hand protection                  | : protective gloves.   |
| Eye protection                   | : Safety goggles.  |
| 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.  |

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |   |
|---|---|
| Physical state                              | : Liquid  |
| Appearance                                  | : Black   |
| Color                                       | : Black   |
| Odor  | : Slight odor   |
| Odor threshold                              | : No information available  |
| pH  | : 7 - 9   |
| Relative evaporation rate (butyl acetate=1) | : No information available  |
| Relative evaporation rate (ether=1)         | : Not available   |
| Melting point                               | : < 5 °C  |
| Freezing point                              | : No data available   |
| Boiling point                               | : > 100 °C  |
| Flash point                                 | : Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup) |
| Auto-ignition temperature                   | : > 400 °C  |
| Decomposition temperature                   | : Not available   |
| Flammability (solid, gas)                   | : Not applicable  |
| Vapor pressure                              | : Not available   |
| Relative vapor density at 20 °C             | : Not available   |
| Relative density                            | : No data available   |
| Specific gravity / density                  | : 1 - 1.1 g/ml  |
| Solubility                                  | : Soluble in water  |
| Log Pow                                     | : No data available   |
| Log Kow                                     | : No data available   |
| Viscosity, kinematic                        | : 2 - 5 mPa·s   |
| Viscosity, dynamic                          | : No data available   |
| Explosive properties                        | : Not explosive   |
| Oxidizing properties                        | : Not available   |
| Explosion limits                            | : Not available   |

### 9.2. Other information

No additional 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

Carbon monoxide. Carbon dioxide.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|  |  |
|--|--|
| Acute toxicity                                     | : Not classified   |
| LD <sub>50</sub> oral rat                          | > 2000 mg/kg (OECD 420 method)   |
| Skin corrosion/irritation                          | : Non-irritant. (OECD 404 method)<br>pH: 7 - 9   |
| Serious eye damage/irritation                      | : Minimal irritant to the eye. (OECD 405 method)<br>pH: 7 - 9  |
| Respiratory or skin sensitization                  | : It is not a skin sensitizer. (OECD 429 method)   |
| Germ cell mutagenicity                             | : 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.<br><br>Other ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA |
| Reproductive toxicity                              | : Not classified   |
| Specific target organ toxicity (single exposure)   | : Not classified   |
| Specific target organ toxicity (repeated exposure) | : Not classified   |
| Aspiration hazard                                  | : Not classified   |

## SECTION 12: Ecological information

### 12.1. Toxicity

| glycerol (56-81-5)           |   |
|------------------------------|---|
| LC <sub>50</sub> fish        | 51 - 57 ml/l 96 h - Oncorhynchus mykiss |
| EC <sub>50</sub> Daphnia     | > 500 mg/l 24 h - Daphnia magna         |
| Carbon Black (1333-86-4)     |   |
| EC <sub>50</sub> Daphnia     | > 5600 mg/l 24 h (Daphnia magna)        |
| Diethylene glycol (111-46-6) |   |
| LC <sub>50</sub> fish        | 75200 mg/kg 96 - Pimephales promelas    |
| EC <sub>50</sub> Daphnia     | 84000 mg/l 48 h - Daphnia magna         |

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

| glycerol (56-81-5)           |       |
|------------------------------|-------|
| Log Pow                      | -1.76 |
| Diethylene glycol (111-46-6) |       |
| Log Pow                      | -1.98 |

### 12.4. Mobility in soil

Ecology - soil No information available.



Product name: LC201BK, LC203BK, LC207BK, LC209BK, LC211BK,  
LC213BK, LC217BK, LC219BK, LC221BK, LC223BK, LC227XLBK,  
LC229XLBK, LC231BK, LC233BK, LC237XLBK, LC239XLBK,  
LC261BK, LC263BK, LC609BK, LC629BK, LC639BK, LC649BK,  
LC663BK, LC667XLBK, LC669XLBK, LC673BK, LC677XLBK,  
LC679XLBK, LC683BK, LC687XLBK, LC689XLBK, LC691BK,  
LC693BK, LC697XLBK, LC699XLBK, LC20EBK, LC21EBK,  
LC22EBK, LC22UBK, LC23EBK Ink

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## 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment : Not available

## 12.6. Other adverse effects

Other adverse effects : No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None  
Proper Shipping Name (IATA) : None  
Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions  
Contains no REACH candidate substance

Product name: LC201BK, LC203BK, LC207BK, LC209BK, LC211BK, LC213BK, LC217BK, LC219BK, LC221BK, LC223BK, LC227XLBK, LC229XLBK, LC231BK, LC233BK, LC237XLBK, LC239XLBK, LC261BK, LC263BK, LC609BK, LC629BK, LC639BK, LC649BK, LC663BK, LC667XLBK, LC669XLBK, LC673BK, LC677XLBK, LC679XLBK, LC683BK, LC687XLBK, LC689XLBK, LC691BK, LC693BK, LC697XLBK, LC699XLBK, LC20EBK, LC21EBK, LC22EBK, LC22UBK, LC23EBK Ink

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**15.1.2. National regulations**

Regional legislation : 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 chemical safety assessment has been carried out

**SECTION 16: Other information**

Indication of changes:  
SECTION 1.

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

Abbreviations and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of Chemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department Of Transportation (US))  
ICAO (International Civil Aviation Organization)  
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).

Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

|                     |  |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4                               |
| Eye Dam. 1          | Serious eye damage/eye irritation Category 1                   |
| Skin Irrit. 2       | Skin corrosion/irritation Category 2                           |
| Skin Sens. 1        | Skin sensitization Category 1                                  |
| Aquatic Acute 1     | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| H302                | Harmful if swallowed   |
| H315                | Causes skin irritation   |
| H317                | May cause an allergic skin reaction                            |
| H318                | Causes serious eye damage                                      |

Product name: LC201BK, LC203BK, LC207BK, LC209BK, LC211BK,  
LC213BK, LC217BK, LC219BK, LC221BK, LC223BK, LC227XLBK,  
LC229XLBK, LC231BK, LC233BK, LC237XLBK, LC239XLBK,  
LC261BK, LC263BK, LC609BK, LC629BK, LC639BK, LC649BK,  
LC663BK, LC667XLBK, LC669XLBK, LC673BK, LC677XLBK,  
LC679XLBK, LC683BK, LC687XLBK, LC689XLBK, LC691BK,  
LC693BK, LC697XLBK, LC699XLBK, LC20EBK, LC21EBK,  
LC22EBK, LC22UBK, LC23EBK Ink

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|      |   |
|------|---|
| H400 | Very toxic to aquatic life              |
| 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         |
| N    | Dangerous for the environment           |
| Xi   | Irritant                                |
| Xn   | Harmful                                 |

Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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

### 1.1. Product identifier

Product Name (Product code) : LC201C(LK9289001), LC203C(LK7747001), LC205C(LK8309001), LC211C(LK9345001), LC213C(LK8547001), LC215C(LK8645001), LC221C(LK9317001), LC223C(LK8387001), LC225XLC(LK8419001), LC231C(LKB287001), LC233C(LK8897001), LC235XLC(LK8921001), LC261C(LKB323001), LC263C(LKB263001), LC605C, LC625C, LC635C, LC645C, LC663C(LK8945001), LC665XLC(LK8969001), LC673C(LK9077001), LC675XLC(LK9047001), LC683C, LC685XLC, LC691C, LC693C, LC695XLC(LK9664001), LC20EC(LK9833001), LC21EC(LKB782001), LC22EC(LK9845001), LC22UC(LKB770001), LC23EC(LKB450001)

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (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 number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

**Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]**

Not classified

**Australia Classification**

Not classified as hazardous according to the criteria of NOHSC

Product name: LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC, LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC, LC22UC, LC23EC Ink

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**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

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 substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

**SECTION 3: Composition/information on ingredients**

**3.2. Mixture**

| Name                               | Product identifier  | %       | Classification according to Directive 67/548/EEC | Classification according to Regulation (EC) No. 1272/2008 [CLP]   |
|------------------------------------|---|---------|--|---|
| glycerol                           | (CAS No) 56-81-5<br>(EC no) 200-289-5                                 | 20 - 50 | Not classified                                   | Not classified  |
| Diethylene glycol                  | (CAS No) 111-46-6<br>(EC no) 203-872-2<br>(EC index no) 603-140-00-6  | 3 - 10  | Xn; R22  | Acute Tox. 4 (Oral), H302   |
| Cyan Dye                           | (CAS No) *<br>(EC no) *   | 3 - 10  | Not classified                                   | Not classified  |
| Triethylene glycol monobutyl ether | (CAS No) 143-22-6<br>(EC no) 205-592-6<br>(EC index no) 603-183-00-0  | 3 - 10  | Xi; R41  | Eye Dam. 1, H318  |
| Water                              | (CAS No) 7732-18-5<br>(EC no) 231-791-2                               | 65 - 75 | Not classified                                   | Not classified  |
| 1,2-benzisothiazol-3(2H)-one       | (CAS No) 2634-33-5<br>(EC no) 220-120-9<br>(EC index no) 613-088-00-6 | < 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 |

\*Registered

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If symptoms persist, obtain medical attention.  
First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.  
First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.  
First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.  
First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.  
Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.  
Symptoms/injuries after eye contact : May cause eye irritation.  
Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC, LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC, LC22UC, LC23EC Ink

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Extinguish preferably with dry chemical, carbon dioxide, water, foam.  
Unsuitable extinguishing media : None.

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

Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.  
Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters.  
Combustion products: See Section: 10.

### 5.3. Advice for firefighters

Firefighting instructions : 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

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

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 material for containment and cleaning up

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

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

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

Storage conditions : Keep away from oxidizing agents.

### 7.3. Specific end use(s)

Cartridge containing water based ink for inkjet printing machine.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| glycerol (56-81-5) |  |                        |
|--------------------|--|------------------------|
| Belgium            | Local name                                   | Glycérine (brouillard) |
| Belgium            | Limit value (mg/m <sup>3</sup> )             | 10 mg/m <sup>3</sup>   |
| Czech Republic     | Local name                                   | Glycerol, mlha         |
| Czech Republic     | Exposure limits (PEL) (mg/m <sup>3</sup> )   | 10 mg/m <sup>3</sup>   |
| Czech Republic     | Exposure limits (PEL) (ppm)                  | 2.4 ppm                |
| Czech Republic     | Exposure limits (NPK-P) (mg/m <sup>3</sup> ) | 15 mg/m <sup>3</sup>   |
| Czech Republic     | Exposure limits (NPK-P) (ppm)                | 3.7 ppm                |

Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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| <b>glycerol (56-81-5)</b> |  |  |
|---------------------------|--|--|
| Finland                   | Local name                             | Glyseroli  |
| Finland                   | HTP-arvo (8h) (mg/m <sup>3</sup> )     | 20 mg/m <sup>3</sup>   |
| France                    | Local name                             | Glycérine (aérosols de)  |
| France                    | VME (mg/m <sup>3</sup> )               | 10 mg/m <sup>3</sup>   |
| Ireland                   | Local name                             | Glycerol, mist   |
| Ireland                   | OEL (8 hours ref) (mg/m <sup>3</sup> ) | 10 mg/m <sup>3</sup>   |
| Poland                    | Local name                             | Glicerol aerozole  |
| Poland                    | NDS (mg/m <sup>3</sup> )               | 10 mg/m <sup>3</sup>   |
| Portugal                  | Local name                             | Glicerina, névoas  |
| Portugal                  | OEL TWA (mg/m <sup>3</sup> )           | 10 mg/m <sup>3</sup>   |
| United Kingdom            | Local name                             | Glycerol, mist   |
| United Kingdom            | WEL TWA (mg/m <sup>3</sup> )           | 10 mg/m <sup>3</sup>   |
| USA - ACGIH               | Local name                             | Glycerin mist  |
| USA - ACGIH               | ACGIH TWA (mg/m <sup>3</sup> )         | 10 mg/m <sup>3</sup> mist  |
| USA - ACGIH               | Remark (ACGIH)                         | URT irr  |
| USA - OSHA                | OSHA PEL (TWA) (mg/m <sup>3</sup> )    | 15 mg/m <sup>3</sup> Total dust<br>5 mg/m <sup>3</sup> Respirable Fraction |

| <b>Diethylene glycol (111-46-6)</b> |   |  |
|-------------------------------------|---|--|
| Austria                             | Local name  | Diethylenglykol  |
| Austria                             | MAK (mg/m <sup>3</sup> )  | 44 mg/m <sup>3</sup>   |
| Austria                             | MAK (ppm)   | 10 ppm   |
| Austria                             | MAK Short time value (mg/m <sup>3</sup> )                       | 176 mg/m <sup>3</sup>  |
| Austria                             | MAK Short time value (ppm)                                      | 40 ppm   |
| Denmark                             | Local name  | Diethylenglykol  |
| Denmark                             | Limit (long-term) (mg/m <sup>3</sup> )                          | 11 mg/m <sup>3</sup>   |
| Denmark                             | Limit (long-term) (ppm)   | 2.5 ppm  |
| Germany                             | Local name  | 2,2'-Oxydiethanol  |
| Germany                             | TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> ) | 44 mg/m <sup>3</sup>   |
| Germany                             | TRGS 900 Occupational exposure limit value (ppm)                | 10 ppm   |
| Germany                             | Remark (TRGS 900)   | DFG, Y   |
| Ireland                             | Local name  | Diethylene glycol  |
| Ireland                             | OEL (8 hours ref) (mg/m <sup>3</sup> )                          | 100 mg/m <sup>3</sup>  |
| Ireland                             | OEL (8 hours ref) (ppm)   | 23 ppm   |
| Latvia                              | Local name  | Dietilēnglikols<br>(2,2'oksibisetanols,2,2'dihidroksidietilēteris) |
| Latvia                              | OEL TWA (mg/m <sup>3</sup> )                                    | 10 mg/m <sup>3</sup>   |
| Lithuania                           | Local name  | 2,2-oksidiatanolis (dietilengl kolis, diglikolis)                  |
| Lithuania                           | IPRV (mg/m <sup>3</sup> )                                       | 45 mg/m <sup>3</sup>   |
| Lithuania                           | IPRV (ppm)  | 10 ppm   |
| Lithuania                           | TPRV (mg/m <sup>3</sup> )                                       | 90 mg/m <sup>3</sup>   |
| Lithuania                           | TPRV (ppm)  | 20 ppm   |
| Lithuania                           | Remark (LT)   | O  |
| Poland                              | Local name  | 2,2'-Oksydietanol (glikol dwuetylenowy) aerozol                    |
| Poland                              | NDS (mg/m <sup>3</sup> )  | 10 mg/m <sup>3</sup>   |
| Romania                             | Local name  | Dietilenglicol   |
| Romania                             | OEL TWA (mg/m <sup>3</sup> )                                    | 500 mg/m <sup>3</sup>  |
| Romania                             | OEL TWA (ppm)   | 115 ppm  |

Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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| <b>Diethylene glycol (111-46-6)</b> |   |                       |
|-------------------------------------|---|-----------------------|
| Romania                             | OEL STEL (mg/m <sup>3</sup> )             | 800 mg/m <sup>3</sup> |
| Romania                             | OEL STEL (ppm)                            | 184 ppm               |
| Spain                               | Local name                                | Dietilenglicol        |
| Spain                               | VLA-ED (mg/m <sup>3</sup> )               | 44 mg/m <sup>3</sup>  |
| Spain                               | VLA-ED (ppm)                              | 10 ppm                |
| Spain                               | VLA-EC (mg/m <sup>3</sup> )               | 176 mg/m <sup>3</sup> |
| Spain                               | VLA-EC (ppm)                              | 40 ppm                |
| Sweden                              | Local name                                | Diethylene glycol     |
| Sweden                              | nivågränsvärde (NVG) (mg/m <sup>3</sup> ) | 45 mg/m <sup>3</sup>  |
| Sweden                              | nivågränsvärde (NVG) (ppm)                | 10 ppm                |
| Sweden                              | kortidsvärde (KTV) (mg/m <sup>3</sup> )   | 90 mg/m <sup>3</sup>  |
| Sweden                              | kortidsvärde (KTV) (ppm)                  | 20 ppm                |
| United Kingdom                      | Local name                                | 2,2'-Oxydiethanol     |
| United Kingdom                      | WEL TWA (mg/m <sup>3</sup> )              | 101 mg/m <sup>3</sup> |
| United Kingdom                      | WEL TWA (ppm)                             | 23 ppm                |

## 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: |
| Hand protection                  | : protective gloves.   |
| Eye protection                   | : Safety goggles.  |
| 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.  |



Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |   |
|---|---|
| Physical state                              | : Liquid  |
| Appearance                                  | : Dark blue   |
| Color                                       | : Dark blue   |
| Odor  | : Slight odor   |
| Odor threshold                              | : No information available  |
| pH  | : 7 - 9   |
| Relative evaporation rate (butyl acetate=1) | : No information available  |
| Relative evaporation rate (ether=1)         | : Not available   |
| Melting point                               | : < 5 °C  |
| Freezing point                              | : No data available   |
| Boiling point                               | : > 100 °C  |
| Flash point                                 | : Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup) |
| Auto-ignition temperature                   | : > 400 °C  |
| Decomposition temperature                   | : Not available   |
| Flammability (solid, gas)                   | : Not applicable  |
| Vapor pressure                              | : Not available   |
| Relative vapor density at 20 °C             | : Not available   |
| Relative density                            | : No data available   |
| Specific gravity / density                  | : 1 - 1.1 g/ml  |
| Solubility                                  | : Soluble in water  |
| Log Pow                                     | : No data available   |
| Log Kow                                     | : No data available   |
| Viscosity, kinematic                        | : 2 - 5 mPa·s   |
| Viscosity, dynamic                          | : No data available   |
| Explosive properties                        | : Not explosive   |
| Oxidizing properties                        | : Not available   |
| Explosion limits                            | : Not available   |

### 9.2. Other information

No additional 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

Carbon monoxide. Carbon dioxide.

Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|  |  |
|--|--|
| Acute toxicity                                     | : Not classified   |
| LD <sub>50</sub> oral rat                          | > 2000 mg/kg (OECD 420 method)   |
| Skin corrosion/irritation                          | : Non-irritant. (OECD 404 method)<br>pH: 7 - 9   |
| Serious eye damage/irritation                      | : Minimal irritant to the eye. (OECD 405 method)<br>pH: 7 - 9  |
| Respiratory or skin sensitization                  | : It is not a skin sensitizer. (OECD 429 method)   |
| Germ cell mutagenicity                             | : Negative. (OECD 471 method)  |
| Carcinogenicity                                    | : Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA |
| Reproductive toxicity                              | : Not classified   |
| Specific target organ toxicity (single exposure)   | : Not classified   |
| Specific target organ toxicity (repeated exposure) | : Not classified   |
| Aspiration hazard                                  | : Not classified   |

## SECTION 12: Ecological information

### 12.1. Toxicity

| glycerol (56-81-5)                            |   |
|---|---|
| LC <sub>50</sub> fish                         | 51 - 57 ml/l 96 h - Oncorhynchus mykiss   |
| EC <sub>50</sub> Daphnia                      | > 500 mg/l 24 h - Daphnia magna           |
| Diethylene glycol (111-46-6)                  |   |
| LC <sub>50</sub> fish                         | 75200 mg/kg 96 - Pimephales promelas      |
| EC <sub>50</sub> Daphnia                      | 84000 mg/l 48 h - Daphnia magna           |
| Triethylene glycol monobutyl ether (143-22-6) |   |
| LC <sub>50</sub> fish                         | 2200 - 4600 mg/kg 96 h - Leuciscus idus   |
| LC <sub>50</sub> other aquatic organisms      | 2400 mg/kg 96 h - Pimephales promelas     |
| EC <sub>50</sub> Daphnia                      | > 500 mg/l 48 h - Daphnia magna           |
| EC <sub>50</sub> other aquatic organisms 1    | > 500 mg/l 72 h - Desmodesmus subspicatus |

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

| glycerol (56-81-5)                            |       |
|---|-------|
| Log Pow                                       | -1.76 |
| Diethylene glycol (111-46-6)                  |       |
| Log Pow                                       | -1.98 |
| Triethylene glycol monobutyl ether (143-22-6) |       |
| Log Pow                                       | 0.51  |

### 12.4. Mobility in soil

Ecology - soil No information available.

### 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment Not available

Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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## 12.6. Other adverse effects

Other adverse effects : No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None

Proper Shipping Name (IATA) : None

Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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**15.1.2. National regulations**

Regional legislation : 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 chemical safety assessment has been carried out

**SECTION 16: Other information**

Indication of changes:  
SECTION 1.

Data sources : 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 and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of Chemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department of Transportation (US))  
ICAO (International Civil Aviation Organization)  
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).

Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

|                     |  |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4                               |
| Eye Dam. 1          | Serious eye damage/eye irritation Category 1                   |
| Skin Irrit. 2       | Skin corrosion/irritation Category 2                           |
| Skin Sens. 1        | Skin sensitization Category 1                                  |
| Aquatic Acute 1     | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| 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                                     |
| 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                                |

Product name: LC201C, LC203C, LC205C, LC211C, LC213C,  
LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C,  
LC235XLC, LC261C, LC263C, LC605C, LC625C, LC635C, LC645C,  
LC663C, LC665XLC, LC673C, LC675XLC, LC683C, LC685XLC,  
LC691C, LC693C, LC695XLC, LC20EC, LC21EC, LC22EC,  
LC22UC, LC23EC Ink

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|    |                               |
|----|-------------------------------|
| N  | Dangerous for the environment |
| Xi | Irritant                      |
| Xn | Harmful                       |

Product name: LC201M, LC203M, LC205M, LC211M, LC213M, LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M, LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M, LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M, LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM, LC22EM, LC22UM, LC23EM Ink

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

### 1.1. Product identifier

Product Name (Product code) : LC201M(LK9290001), LC203M(LK7748001), LC205M(LK8310001), LC211M(LK9346001), LC213M(LK8548001), LC215M(LK8646001), LC221M(LK9318001), LC223M(LK8388001), LC225XLM(LK8420001), LC231M(LKB288001), LC233M(LK8898001), LC235XLM(LK8922001), LC261M(LKB324001), LC263M(LKB264001), LC605M, LC625M, LC635M, LC645M, LC663M(LK8946001), LC665XLM(LK8970001), LC673M(LK9078001), LC675XLM(LK9048001), LC683M, LC685XLM, LC691M, LC693M, LC695XLM(LK9665001), LC20EM(LK9834001), LC21EM(LKB783001), LC22EM(LK9846001), LC22UM(LKB771001), LC23EM(LKB451001)

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (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 number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

Product name: LC201M, LC203M, LC205M, LC211M, LC213M, LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M, LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M, LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M, LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM, LC22EM, LC22UM, LC23EM Ink

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**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

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 substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

**SECTION 3: Composition/information on ingredients**

**3.2. Mixture**

| Name                         | Product identifier  | %      | Classification according to Directive 67/548/EEC | Classification according to Regulation (EC) No. 1272/2008 [CLP]   |
|------------------------------|---|--------|--|---|
| glycerol                     | (CAS No) 56-81-5<br>(EC no) 200-289-5                                 | 10-20  | Not classified                                   | Not classified  |
| Magenta Dye                  | (CAS No) *<br>(EC no) *   | < 2.5  | N; R51/53  | Aquatic Chronic 2, H411   |
| Water                        | (CAS No) 7732-18-5<br>(EC no) 231-791-2                               | 65-80  | Not classified                                   | Not classified  |
| 1,2-benzisothiazol-3(2H)-one | (CAS No) 2634-33-5<br>(EC no) 220-120-9<br>(EC index no) 613-088-00-6 | < 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 |

\*Registered

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If symptoms persist, obtain medical attention.  
First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.  
First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.  
First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.  
First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.  
Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.  
Symptoms/injuries after eye contact : May cause eye irritation.  
Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

**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.

Product name: LC201M, LC203M, LC205M, LC211M, LC213M, LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M, LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M, LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M, LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM, LC22EM, LC22UM, LC23EM Ink

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

Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.  
Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters.  
Combustion products: See Section: 10.

**5.3. Advice for firefighters**

Firefighting instructions : 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**

**6.1.1. For non-emergency personnel**

Emergency procedures : Ensure adequate ventilation. Avoid contact with eyes.

**6.1.2. For emergency responders**

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 material for containment and cleaning up**

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

**6.4. Reference to other sections**

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions : Keep away from oxidizing agents.

**7.3. Specific end use(s)**

Cartridge containing water based ink for inkjet printing machine.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

| glycerol (56-81-5) |  |                         |
|--------------------|--|-------------------------|
| Belgium            | Local name                                   | Glycérine (brouillard)  |
| Belgium            | Limit value (mg/m <sup>3</sup> )             | 10 mg/m <sup>3</sup>    |
| Czech Republic     | Local name                                   | Glycerol, mlha          |
| Czech Republic     | Exposure limits (PEL) (mg/m <sup>3</sup> )   | 10 mg/m <sup>3</sup>    |
| Czech Republic     | Exposure limits (PEL) (ppm)                  | 2.4 ppm                 |
| Czech Republic     | Exposure limits (NPK-P) (mg/m <sup>3</sup> ) | 15 mg/m <sup>3</sup>    |
| Czech Republic     | Exposure limits (NPK-P) (ppm)                | 3.7 ppm                 |
| Finland            | Local name                                   | Glyseroli               |
| Finland            | HTP-arvo (8h) (mg/m <sup>3</sup> )           | 20 mg/m <sup>3</sup>    |
| France             | Local name                                   | Glycérine (aérosols de) |
| France             | VME (mg/m <sup>3</sup> )                     | 10 mg/m <sup>3</sup>    |
| Ireland            | Local name                                   | Glycerol, mist          |



Product name: LC201M, LC203M, LC205M, LC211M, LC213M, LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M, LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M, LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M, LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM, LC22EM, LC22UM, LC23EM Ink

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| <b>glycerol (56-81-5)</b> |  |  |
|---------------------------|--|--|
| Ireland                   | OEL (8 hours ref) (mg/m <sup>3</sup> ) | 10 mg/m <sup>3</sup>   |
| Poland                    | Local name                             | Glicerol aerozole  |
| Poland                    | NDS (mg/m <sup>3</sup> )               | 10 mg/m <sup>3</sup>   |
| Portugal                  | Local name                             | Glicerina, névoas  |
| Portugal                  | OEL TWA (mg/m <sup>3</sup> )           | 10 mg/m <sup>3</sup>   |
| United Kingdom            | Local name                             | Glycerol, mist   |
| United Kingdom            | WEL TWA (mg/m <sup>3</sup> )           | 10 mg/m <sup>3</sup>   |
| USA - ACGIH               | Local name                             | Glycerin mist  |
| USA - ACGIH               | ACGIH TWA (mg/m <sup>3</sup> )         | 10 mg/m <sup>3</sup> mist  |
| USA - ACGIH               | Remark (ACGIH)                         | URT irr  |
| USA - OSHA                | OSHA PEL (TWA) (mg/m <sup>3</sup> )    | 15 mg/m <sup>3</sup> Total dust<br>5 mg/m <sup>3</sup> Respirable Fraction |

**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: |
| Hand protection                  | : protective gloves.   |
| Eye protection                   | : Safety goggles.  |
| 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.  |

Product name: LC201M, LC203M, LC205M, LC211M, LC213M, LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M, LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M, LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M, LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM, LC22EM, LC22UM, LC23EM Ink

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |   |
|---|---|
| Physical state                              | : Liquid  |
| Appearance                                  | : Dark red  |
| Color                                       | : Dark red  |
| Odor  | : Slight odor   |
| Odor threshold                              | : No information available  |
| pH  | : 7 - 9   |
| Relative evaporation rate (butyl acetate=1) | : No information available  |
| Relative evaporation rate (ether=1)         | : Not available   |
| Melting point                               | : < 5 °C  |
| Freezing point                              | : No data available   |
| Boiling point                               | : > 100 °C  |
| Flash point                                 | : Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup) |
| Auto-ignition temperature                   | : > 400 °C  |
| Decomposition temperature                   | : Not available   |
| Flammability (solid, gas)                   | : Not applicable  |
| Vapor pressure                              | : Not available   |
| Relative vapor density at 20 °C             | : Not available   |
| Relative density                            | : No data available   |
| Specific gravity / density                  | : 1 - 1.1 g/ml  |
| Solubility                                  | : Soluble in water  |
| Log Pow                                     | : No data available   |
| Log Kow                                     | : No data available   |
| Viscosity, kinematic                        | : 2 - 5 mPa·s   |
| Viscosity, dynamic                          | : No data available   |
| Explosive properties                        | : Not explosive   |
| Oxidizing properties                        | : Not available   |
| Explosion limits                            | : Not available   |

### 9.2. Other information

No additional 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

Carbon monoxide. Carbon dioxide.

Product name: LC201M, LC203M, LC205M, LC211M, LC213M, LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M, LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M, LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M, LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM, LC22EM, LC22UM, LC23EM Ink

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**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity : Not classified  
 LD<sub>50</sub> oral rat > 2000 mg/kg (OECD 420 method)  
 Skin corrosion/irritation : Non-irritant. (OECD 404 method)  
 pH: 7 - 9  
 Serious eye damage/irritation : Minimal irritant to the eye. (OECD 405 method)  
 pH: 7 - 9  
 Respiratory or skin sensitization : It is not a skin sensitizer. (OECD 429 method)  
 Germ cell mutagenicity : Negative. (OECD 471 method)  
 Carcinogenicity : Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA  
 Reproductive toxicity : Not classified  
 Specific target organ toxicity (single exposure) : Not classified  
 Specific target organ toxicity (repeated exposure) : Not classified  
 Aspiration hazard : Not classified

**SECTION 12: Ecological information**

**12.1. Toxicity**

| glycerol (56-81-5)       |   |
|--------------------------|---|
| LC <sub>50</sub> fish    | 51 - 57 ml/l 96 h - Oncorhynchus mykiss |
| EC <sub>50</sub> Daphnia | > 500 mg/l 24 h - Daphnia magna         |

**12.2. Persistence and degradability**

Persistence and degradability : No information available.

**12.3. Bioaccumulative potential**

| glycerol (56-81-5) |       |
|--------------------|-------|
| Log Pow            | -1.76 |

**12.4. Mobility in soil**

Ecology - soil : No information available.

**12.5. Results of PBT and vPvB assessment**

This substance/mixture does not meet the PBT criteria of REACH, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

Results of PBT assessment : Not available

**12.6. Other adverse effects**

Other adverse effects : No information available.

Product name: LC201M, LC203M, LC205M, LC211M, LC213M,  
LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M,  
LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M,  
LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M,  
LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM,  
LC22EM, LC22UM, LC23EM Ink

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None

Proper Shipping Name (IATA) : None

Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

#### 15.1.2. National regulations

Regional legislation : 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 chemical safety assessment has been carried out

Product name: LC201M, LC203M, LC205M, LC211M, LC213M, LC215M, LC221M, LC223M, LC225XLM, LC231M, LC233M, LC235XLM, LC261M, LC263M, LC605M, LC625M, LC635M, LC645M, LC663M, LC665XLM, LC673M, LC675XLM, LC683M, LC685XLM, LC691M, LC693M, LC695XLM, LC20EM, LC21EM, LC22EM, LC22UM, LC23EM Ink

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**SECTION 16: Other information**

Indication of changes:  
SECTION 1.

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

Abbreviations and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of CHemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department Of Transportation (US))  
ICAO (International Civil Aviation Organization)  
NOHSC (National Occupational Health and Safety Commission (Australia))  
NTP (National Toxicology Program) (US)  
OSHA (Occupational Safety and Health Administration) (US)  
PEL (Permissible Exposure Limit)  
TLV (Threshold Limit Value) (ACGIH)  
TSCA (Toxic Substances Control Act) (US)  
TWA (Time Weighted Average).

Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

|                     |  |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4   |
| Eye Dam. 1          | Serious eye damage/eye irritation Category 1   |
| Skin Irrit. 2       | Skin corrosion/irritation Category 2   |
| Skin Sens. 1        | Skin sensitization Category 1  |
| Aquatic Acute 1     | Hazardous to the aquatic environment - Acute Hazard, Category 1                            |
| Aquatic Chronic 2   | Hazardous to the aquatic environment - Chronic Hazard Category 2                           |
| 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   |
| H411                | Toxic to aquatic life with long lasting effects  |
| 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 |
| N                   | Dangerous for the environment  |
| Xi                  | Irritant   |
| Xn                  | Harmful  |

Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y,  
LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y,  
LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y,  
LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY,  
LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY,  
LC23EY Ink

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

### 1.1. Product identifier

Product Name (Product code) : LC201Y(LK9291001), LC203Y(LK7749001), LC205Y(LK8311001), LC211Y(LK9347001),  
LC213Y(LK8549001), LC215Y(LK8647001), LC221Y(LK9319001), LC223Y(LK8389001),  
LC225XLY(LK8421001), LC231Y(LKB289001), LC233Y(LK8899001), LC235XLY(LK8923001),  
LC261Y(LKB325001), LC263Y(LKB265001), LC605Y, LC625Y, LC635Y, LC645Y,  
LC663Y(LK8947001), LC665XLY(LK8971001), LC673Y(LK9079001), LC675XLY(LK9049001),  
LC683Y, LC685XLY, LC691Y, LC693Y, LC695XLY(LK9666001), LC20EY(LK9835001),  
LC21EY(LKB784001), LC22EY(LK9847001), LC22UY(LKB772001), LC23EY(LKB452001)

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (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 number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y, LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y, LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y, LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY, LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY, LC23EY Ink

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**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

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 substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

**SECTION 3: Composition/information on ingredients**

**3.2. Mixture**

| Name                               | Product identifier  | %      | Classification according to Directive 67/548/EEC | Classification according to Regulation (EC) No. 1272/2008 [CLP]   |
|------------------------------------|---|--------|--|---|
| glycerol                           | (CAS No) 56-81-5<br>(EC no) 200-289-5                                 | 5-15   | Not classified                                   | Not classified  |
| Triethylene glycol monobutyl ether | (CAS No) 143-22-6<br>(EC no) 205-592-6<br>(EC index no) 603-183-00-0  | 1-5    | Xi; R41  | Eye Dam. 1, H318  |
| Yellow Dye                         | (CAS No) *<br>(EC no) *   | ≤5     | Not classified                                   | Not classified  |
| Water                              | (CAS No) 7732-18-5<br>(EC no) 231-791-2                               | 65-80  | Not classified                                   | Not classified  |
| 1,2-benzisothiazol-3(2H)-one       | (CAS No) 2634-33-5<br>(EC no) 220-120-9<br>(EC index no) 613-088-00-6 | < 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 |

\*Registered

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If symptoms persist, obtain medical attention.  
First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.  
First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.  
First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.  
First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.  
Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.  
Symptoms/injuries after eye contact : May cause eye irritation.  
Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y, LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y, LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y, LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY, LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY, LC23EY Ink

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## 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

Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.

Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters.  
Combustion products: See Section: 10.

### 5.3. Advice for firefighters

Firefighting instructions : 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

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

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 material for containment and cleaning up

For containment : Wipe up ink with absorbent towel.

Methods for cleaning up : Wash with water to remove remaining traces of ink.

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

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

Storage conditions : Keep away from oxidizing agents.

### 7.3. Specific end use(s)

Cartridge containing water based ink for inkjet printing machine.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| glycerol (56-81-5) |  |                        |
|--------------------|--|------------------------|
| Belgium            | Local name                                   | Glycérine (brouillard) |
| Belgium            | Limit value (mg/m <sup>3</sup> )             | 10 mg/m <sup>3</sup>   |
| Czech Republic     | Local name                                   | Glycerol, mlha         |
| Czech Republic     | Exposure limits (PEL) (mg/m <sup>3</sup> )   | 10 mg/m <sup>3</sup>   |
| Czech Republic     | Exposure limits (PEL) (ppm)                  | 2.4 ppm                |
| Czech Republic     | Exposure limits (NPK-P) (mg/m <sup>3</sup> ) | 15 mg/m <sup>3</sup>   |
| Czech Republic     | Exposure limits (NPK-P) (ppm)                | 3.7 ppm                |



Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y, LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y, LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y, LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY, LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY, LC23EY Ink

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| <b>glycerol (56-81-5)</b> |  |  |
|---------------------------|--|--|
| Finland                   | Local name                             | Glyseroli  |
| Finland                   | HTP-arvo (8h) (mg/m <sup>3</sup> )     | 20 mg/m <sup>3</sup>   |
| France                    | Local name                             | Glycérine (aérosols de)  |
| France                    | VME (mg/m <sup>3</sup> )               | 10 mg/m <sup>3</sup>   |
| Ireland                   | Local name                             | Glycerol, mist   |
| Ireland                   | OEL (8 hours ref) (mg/m <sup>3</sup> ) | 10 mg/m <sup>3</sup>   |
| Poland                    | Local name                             | Glicerol aerozole  |
| Poland                    | NDS (mg/m <sup>3</sup> )               | 10 mg/m <sup>3</sup>   |
| Portugal                  | Local name                             | Glicerina, névoas  |
| Portugal                  | OEL TWA (mg/m <sup>3</sup> )           | 10 mg/m <sup>3</sup>   |
| United Kingdom            | Local name                             | Glycerol, mist   |
| United Kingdom            | WEL TWA (mg/m <sup>3</sup> )           | 10 mg/m <sup>3</sup>   |
| USA - ACGIH               | Local name                             | Glycerin mist  |
| USA - ACGIH               | ACGIH TWA (mg/m <sup>3</sup> )         | 10 mg/m <sup>3</sup> mist  |
| USA - ACGIH               | Remark (ACGIH)                         | URT irr  |
| USA - OSHA                | OSHA PEL (TWA) (mg/m <sup>3</sup> )    | 15 mg/m <sup>3</sup> Total dust<br>5 mg/m <sup>3</sup> Respirable Fraction |

## 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: |
| Hand protection                  | : protective gloves.   |
| Eye protection                   | : Safety goggles.  |
| 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.  |

Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y,  
LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y,  
LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y,  
LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY,  
LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY,  
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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |   |
|---|---|
| Physical state                              | : Liquid  |
| Appearance                                  | : Dark yellow   |
| Color                                       | : Dark yellow   |
| Odor  | : Slight odor   |
| Odor threshold                              | : No information available  |
| pH  | : 7 - 9   |
| Relative evaporation rate (butyl acetate=1) | : No information available  |
| Relative evaporation rate (ether=1)         | : Not available   |
| Melting point                               | : < 5 °C  |
| Freezing point                              | : No data available   |
| Boiling point                               | : > 100 °C  |
| Flash point                                 | : Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup) |
| Auto-ignition temperature                   | : > 400 °C  |
| Decomposition temperature                   | : Not available   |
| Flammability (solid, gas)                   | : Not applicable  |
| Vapor pressure                              | : Not available   |
| Relative vapor density at 20 °C             | : Not available   |
| Relative density                            | : No data available   |
| Specific gravity / density                  | : 1 - 1.1 g/ml  |
| Solubility                                  | : Soluble in water  |
| Log Pow                                     | : No data available   |
| Log Kow                                     | : No data available   |
| Viscosity, kinematic                        | : 2 - 5 mPa·s   |
| Viscosity, dynamic                          | : No data available   |
| Explosive properties                        | : Not explosive   |
| Oxidizing properties                        | : Not available   |
| Explosion limits                            | : Not available   |

### 9.2. Other information

No additional 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

Carbon monoxide. Carbon dioxide.

Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y, LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y, LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y, LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY, LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY, LC23EY Ink

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|  |  |
|--|--|
| Acute toxicity                                     | : Not classified   |
| LD <sub>50</sub> oral rat                          | > 2000 mg/kg (OECD 420 method)   |
| Skin corrosion/irritation                          | : Non-irritant. (OECD 404 method)<br>pH: 7 - 9   |
| Serious eye damage/irritation                      | : Minimal irritant to the eye. (OECD 405 method)<br>pH: 7 - 9  |
| Respiratory or skin sensitization                  | : It is not a skin sensitizer. (OECD 429 method)   |
| Germ cell mutagenicity                             | : Negative. (OECD 471 method)  |
| Carcinogenicity                                    | : Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA |
| Reproductive toxicity                              | : Not classified   |
| Specific target organ toxicity (single exposure)   | : Not classified   |
| Specific target organ toxicity (repeated exposure) | : Not classified   |
| Aspiration hazard                                  | : Not classified   |

## SECTION 12: Ecological information

### 12.1. Toxicity

| glycerol (56-81-5)                            |  |
|---|--|
| LC <sub>50</sub> fish                         | 51 - 57 ml/l 96 h - <i>Oncorhynchus mykiss</i>   |
| EC <sub>50</sub> Daphnia                      | > 500 mg/l 24 h - <i>Daphnia magna</i>           |
| Triethylene glycol monobutyl ether (143-22-6) |  |
| LC <sub>50</sub> fish                         | 2200 - 4600 mg/kg 96 h - <i>Leuciscus idus</i>   |
| LC <sub>50</sub> other aquatic organisms      | 2400 mg/kg 96 h - <i>Pimephales promelas</i>     |
| EC <sub>50</sub> Daphnia                      | > 500 mg/l 48 h - <i>Daphnia magna</i>           |
| EC <sub>50</sub> other aquatic organisms 1    | > 500 mg/l 72 h - <i>Desmodesmus subspicatus</i> |

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

| glycerol (56-81-5)                            |       |
|---|-------|
| Log Pow                                       | -1.76 |
| Triethylene glycol monobutyl ether (143-22-6) |       |
| Log Pow                                       | 0.51  |

### 12.4. Mobility in soil

Ecology - soil No information available.

### 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment Not available

### 12.6. Other adverse effects

Other adverse effects : No information available.

Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y,  
LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y,  
LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y,  
LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY,  
LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY,  
LC23EY Ink

Date of issue: 26 September 2013  
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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None

Proper Shipping Name (IATA) : None

Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

#### 15.1.2. National regulations

Regional legislation : 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 chemical safety assessment has been carried out

Product name: LC201Y, LC203Y, LC205Y, LC211Y, LC213Y,  
LC215Y, LC221Y, LC223Y, LC225XLY, LC231Y, LC233Y,  
LC235XLY, LC261Y, LC263Y, LC605Y, LC625Y, LC635Y, LC645Y,  
LC663Y, LC665XLY, LC673Y, LC675XLY, LC683Y, LC685XLY,  
LC691Y, LC693Y, LC695XLY, LC20EY, LC21EY, LC22EY, LC22UY,  
LC23EY Ink

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**SECTION 16: Other information**

Indication of changes:  
SECTION 1.

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

Abbreviations and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of CHemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department Of Transportation (US))  
ICAO (International Civil Aviation Organization)  
NOHSC (National Occupational Health and Safety Commission (Australia))  
NTP (National Toxicology Program) (US)  
OSHA (Occupational Safety and Health Administration) (US)  
PEL (Permissible Exposure Limit)  
TLV (Threshold Limit Value) (ACGIH)  
TSCA (Toxic Substances Control Act) (US)  
TWA (Time Weighted Average).

Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

|                     |   |
|---------------------|---|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4                                |
| Eye Dam. 1          | Serious eye damage/eye irritation Category 1                    |
| Skin Irrit. 2       | Skin corrosion/irritation Category 2                            |
| Skin Sens. 1        | Skin sensitization Category 1                                   |
| Aquatic Acute 1     | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| 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                                      |
| 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                                 |
| N                   | Dangerous for the environment                                   |
| Xi                  | Irritant  |
| Xn                  | Harmful   |