

Product Name: LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK, LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK, LC990HYBK, LC1100HYBK Ink

Revision Date: 10-Mar-2020

Issuing Date: 26-Dec-2007

Revision Number: 12

Safety data sheet number: BHK018-01

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

### 1.1. Product identifier

**Product Name** LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK, LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK, LC990HYBK, LC1100HYBK Ink

**Product Form** Mixture

**Safety data sheet number** BHK018-01

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

**Relevant identified uses** These products are black ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated. Information provided on this SDS is only consistent with the use specified by Brother.

**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

**Manufacturer** Brother Industries, Ltd.  
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan  
Telephone (for information): +81-52-824-2735

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

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

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

Revision Date: 10-Mar-2020

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Product Name: LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK, LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK, LC990HYBK, LC1100HYBK Ink

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## 2.2. Label elements

### Regulation (EC) No 1272/2008

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

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

## 2.3. Other hazards

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

## Section 3: Composition/information on ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

| Chemical name              | CAS No    | EC No                  | EC Index No  | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP]   | REACH Registration Number |
|----------------------------|-----------|------------------------|--------------|----------|---|---------------------------|
| Water                      | 7732-18-5 | 231-791-2              | -            | 65-75    | Not classified  | No data available         |
| Glycerol                   | 56-81-5   | 200-289-5              | -            | 20-30    | Not classified  | No data available         |
| Carbon Black               | 1333-86-4 | 215-609-9<br>435-640-3 | -            | 1-5      | Not classified  | Registered                |
| 1,2-Benzisothiazolin-3-one | 2634-33-5 | 220-120-9              | 613-088-00-6 | <0.05    | Acute Tox. 4 (H302)<br>Skin Irrit. 2 (H315)<br>Eye Dam. 1 (H318)<br>Skin Sens. 1 (H317)<br>Aquatic Acute 1 (H400) | No data available         |

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

## Section 4: First aid measures

### 4.1. Description of first aid measures

#### General advice

If symptoms persist, call a physician.

Product Name: LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK,  
LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK,  
LC990HYBK, LC1100HYBK Ink

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|                      |  |
|----------------------|--|
| <b>Inhalation</b>    | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. |
| <b>Eye contact</b>   | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.             |
| <b>Skin contact:</b> | Take off contaminated clothing. Wash off immediately with soap and plenty of water.  |
| <b>Ingestion</b>     | Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.                             |

**4.2. Most important symptoms and effects, both acute and delayed**

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | Skin contact: Repeated and/or prolonged skin contact may cause irritation<br>Eye contact: May cause eye irritation<br>Ingestion: May cause stomach ache. Unlikely route of exposure<br>Inhalation : Unlikely route of exposure |
|-----------------|--|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

**Section 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable Extinguishing Media** Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Unsuitable extinguishing media** None.

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

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating gases and vapors

**5.3. Advice for firefighters**

**Special protective equipment for fire-fighters** Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

**Section 6: Accidental release measures**

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

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

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**For emergency responders** Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

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

**6.3. Methods and material for containment and cleaning up**

**Methods for containment** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

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

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

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

**Section 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling** Keep out of reach of children. Avoid contact with skin and eyes.

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

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

**Storage Conditions** Keep away from oxidizing agents.

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

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

**Section 8: Exposure controls and personal protection**

**8.1. Control parameters**

**Exposure Limits**

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

Product Name: LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK, LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK, LC990HYBK, LC1100HYBK Ink

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|                           |         |  |                            |   |   |
|---------------------------|---------|--|----------------------------|---|---|
| Carbon Black<br>1333-86-4 | -       | TWA: 3.5 mg/m <sup>3</sup><br>STEL: 7 mg/m <sup>3</sup>  | TWA: 3.5 mg/m <sup>3</sup> | TWA: 3.5 mg/m <sup>3</sup>                              | -   |
| Chemical name             | Italy   | Portugal   | Netherlands                | Finland   | Denmark   |
| Glycerol<br>56-81-5       | -       | TWA: 10 mg/m <sup>3</sup>                                | -                          | TWA: 20 mg/m <sup>3</sup>                               | -   |
| Carbon Black<br>1333-86-4 | -       | TWA: 3.5 mg/m <sup>3</sup>                               | -                          | TWA: 3.5 mg/m <sup>3</sup><br>STEL: 7 mg/m <sup>3</sup> | TWA: 3.5 mg/m <sup>3</sup>                              |
| Chemical name             | Austria | Switzerland  | Poland                     | Norway  | Ireland   |
| Glycerol<br>56-81-5       | -       | TWA: 50 mg/m <sup>3</sup><br>STEL: 100 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup>  | -   | TWA: 10 mg/m <sup>3</sup><br>STEL: 30 mg/m <sup>3</sup> |
| Carbon Black<br>1333-86-4 | -       | -  | TWA: 4.0 mg/m <sup>3</sup> | TWA: 3.5 mg/m <sup>3</sup><br>STEL: 7 mg/m <sup>3</sup> | TWA: 3 mg/m <sup>3</sup><br>STEL: 15 mg/m <sup>3</sup>  |

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

## 8.2. Exposure controls

**Appropriate engineering controls** Good general ventilation should be sufficient under normal use.

**Personal protective equipment** Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:

**Eye/face protection** Safety goggles.

**Hand protection** Protective gloves.

**Skin and body protection** Long sleeved clothing and long pants.

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

**Environmental exposure controls** Avoid release to the environment.

## **Section 9: Physical and chemical properties**

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

**Appearance**

**Physical state** Liquid

**Color** black

**Odor** Slight.

**Odor threshold** No information available

| <u>Property</u>                | <u>Values</u> | <u>Remarks • Method</u> |
|--------------------------------|---------------|-------------------------|
| pH                             | 7 - 9         |                         |
| Melting point / freezing point | < -5 °C       |                         |
| Boiling point / boiling range  | > 100 °C      |                         |

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|                                  |                          |                                     |
|----------------------------------|--------------------------|-------------------------------------|
| <b>Flash point</b>               | > 94 °C                  | Tag Closed Cup, Cleveland Open Cup, |
| <b>Evaporation rate</b>          | No data available        | None known                          |
| <b>Flammability (solid, gas)</b> | No data available        | None known                          |
| <b>Flammability Limit in Air</b> |                          | None known                          |
| <b>Upper flammability limit:</b> | No data available        |                                     |
| <b>Lower flammability limit:</b> | No data available        |                                     |
| <b>Vapor pressure</b>            | No data available        | None known                          |
| <b>Vapor density</b>             | No data available        | None known                          |
| <b>Relative density</b>          | 1.0 - 1.1                | (H <sub>2</sub> O=1)                |
| <b>Water solubility</b>          | Soluble in water         |                                     |
| <b>Solubility(ies)</b>           | No data available        | None known                          |
| <b>Partition coefficient</b>     | No data available        | None known                          |
| <b>Autoignition temperature</b>  | > 400 °C                 |                                     |
| <b>Decomposition temperature</b> | No data available        | None known                          |
| <b>Kinematic viscosity</b>       | No data available        | None known                          |
| <b>Dynamic viscosity</b>         | 1 - 5 mPa s              |                                     |
| <b>Explosive properties</b>      | No information available | No information available.           |
| <b>Oxidizing properties</b>      | No information available |                                     |

**9.2. Other information**

No information available

**Section 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

No information available.

**10.4. Conditions to avoid**

No information available

**10.5. Incompatible materials**

Strong oxidizing agents

**10.6. Hazardous decomposition products**

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

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LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK,  
LC990HYBK, LC1100HYBK Ink

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## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Product Information

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

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

|                        |                 |
|------------------------|-----------------|
| <b>ATEmix (oral)</b>   | 52,271.10 mg/kg |
| <b>ATEmix (dermal)</b> | 27,474.80 mg/kg |

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

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

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

## Section 12: Ecological information

### 12.1. Toxicity

#### Ecotoxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

Product Name: LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK, LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK, LC990HYBK, LC1100HYBK Ink

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| Chemical name | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea                             |
|---------------|----------------------|--|----------------------------|---------------------------------------|
| Glycerol      | -                    | 51 - 57: 96 h<br>Oncorhynchus mykiss<br>mL/L LC50 static | -                          | 500: 24 h Daphnia magna<br>mg/L EC50  |
| Carbon Black  | -                    | 1000:96 h Brachydanio<br>rerio mg/L LC50                 | -                          | 5600: 24 h Daphnia<br>magna mg/L EC50 |

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

There is no data for this product.

**Component Information**

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

**12.4. Mobility in soil**

No information available.

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

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6. Other adverse effects**

No information available.

**Section 13: Disposal considerations**

**13.1. Waste treatment methods**

Dispose in accordance with federal, state and local regulations.

**Section 14: Transport information**

**IMDG**

|                           |               |
|---------------------------|---------------|
| 14.1 UN/ID no             | Not regulated |
| 14.2 Proper shipping name | Not regulated |
| 14.3 Hazard Class         | Not regulated |
| 14.4 Packing group        | Not regulated |



Product Name: LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK,  
LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK,  
LC990HYBK, LC1100HYBK Ink

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14.5 Marine pollutant Not applicable  
14.6 Special Provisions None  
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

**RID**

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

**ADR**

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

**IATA**

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

**Section 15: Regulatory information**

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

**EU-Regulations**

\* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.

\* Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.

\* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

**National Regulations**

No information available

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

Product Name: LC11BK, LC16BK, LC38BK, LC39BK, LC60BK, LC61BK, LC67BK,  
LC975BK, LC980BK, LC985BK, LC990BK, LC1100BK, LC65HYBK, LC67HYBK,  
LC990HYBK, LC1100HYBK Ink

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## Section 16: Other information

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

#### Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

#### Legend

SVHC: Substances of Very High Concern for Authorization:

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

\*\*

Trade secret

#### Key literature references and sources for data

No information available

**Revision Date** 10-Mar-2020

**Issuing Date** 26-Dec-2007

**Revision Note** No information available

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

#### Disclaimer

The information relates only to this product. It may not be valid, if used in combination with any other materials or in any other process, and it is based on our best knowledge as of the date of preparation (revision).

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

Safety data sheet number: BHC018-01

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

### 1.1. Product identifier

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

**Product Form** Mixture

**Safety data sheet number** BHC018-01

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

**Relevant identified uses** These products are dark blue ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated. Information provided on this SDS is only consistent with the use specified by Brother.

**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

**Manufacturer** Brother Industries, Ltd.  
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan  
Telephone (for information): +81-52-824-2735

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

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

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

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

Safety data sheet number: BHC018-01

**2.2. Label elements**

**Regulation (EC) No 1272/2008**

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

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

**2.3. Other hazards**

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical name                       | CAS No    | EC No     | EC Index No  | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP]   | REACH Registration Number |
|-------------------------------------|-----------|-----------|--------------|----------|---|---------------------------|
| Water                               | 7732-18-5 | 231-791-2 | -            | 60-70    | Not classified  | No data available         |
| Glycerol                            | 56-81-5   | 200-289-5 | -            | 15-25    | Not classified  | No data available         |
| Triethylene glycol, monobutyl ether | 143-22-6  | 205-592-6 | 603-183-00-0 | 1-5      | Eye Dam. 1 (H318)   | No data available         |
| Diethylene glycol                   | 111-46-6  | 203-872-2 | 603-140-00-6 | 1-5      | Acute Tox. 4 (H302)   | No data available         |
| Cyan Dye                            | **        | -         | -            | < 5      | Eye Dam. 1 (H318)   | No data available         |
| 1,2-Benzisothiazolin-3-one          | 2634-33-5 | 220-120-9 | 613-088-00-6 | < 0.05   | Acute Tox. 4 (H302)<br>Skin Irrit. 2 (H315)<br>Eye Dam. 1 (H318)<br>Skin Sens. 1 (H317)<br>Aquatic Acute 1 (H400) | No data available         |

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

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

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## Section 4: First aid measures

### 4.1. Description of first aid measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | If symptoms persist, call a physician.   |
| <b>Inhalation</b>     | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.             |
| <b>Skin contact:</b>  | Take off contaminated clothing. Wash off immediately with soap and plenty of water.  |
| <b>Ingestion</b>      | Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.                             |

### 4.2. Most important symptoms and effects, both acute and delayed

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | Skin contact: Repeated and/or prolonged skin contact may cause irritation<br>Eye contact: May cause eye irritation<br>Ingestion: May cause stomach ache. Unlikely route of exposure<br>Inhalation : Unlikely route of exposure |
|-----------------|--|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

## Section 5: Firefighting measures

### 5.1. Extinguishing media

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

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

|   |  |
|---|--|
| <b>Specific hazards arising from the chemical</b> | Thermal decomposition can lead to release of irritating gases and vapors |
|---|--|

### 5.3. Advice for firefighters

|   |  |
|---|--|
| <b>Special protective equipment for fire-fighters</b> | Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source. |
|---|--|

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

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## **Section 6: Accidental release measures**

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

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

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**

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

### **6.3. Methods and material for containment and cleaning up**

**Methods for containment** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

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

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### **6.4. Reference to other sections**

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

## **Section 7: Handling and storage**

### **7.1. Precautions for safe handling**

**Advice on safe handling** Keep out of reach of children. Avoid contact with skin and eyes.

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

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

**Storage Conditions** Keep away from oxidizing agents.

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

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

## **Section 8: Exposure controls and personal protection**

### **8.1. Control parameters**

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

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**Exposure Limits**

| Chemical name                 | European Union  | United Kingdom   | France                    | Spain                     | Germany  |
|-------------------------------|---|--|---------------------------|---------------------------|--|
| Glycerol<br>56-81-5           | -   | TWA: 10 mg/m <sup>3</sup><br>STEL: 30 mg/m <sup>3</sup>                                  | TWA: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup> | TWA: 200 mg/m <sup>3</sup>   |
| Diethylene glycol<br>111-46-6 | -   | TWA: 23 ppm<br>TWA: 101 mg/m <sup>3</sup><br>STEL: 69 ppm<br>STEL: 303 mg/m <sup>3</sup> | -                         | -                         | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup>   |
| Chemical name                 | Italy   | Portugal   | Netherlands               | Finland                   | Denmark  |
| Glycerol<br>56-81-5           | -   | TWA: 10 mg/m <sup>3</sup>  | -                         | TWA: 20 mg/m <sup>3</sup> | -  |
| Diethylene glycol<br>111-46-6 | -   | -  | -                         | -                         | TWA: 2.5 ppm<br>TWA: 11 mg/m <sup>3</sup>  |
| Chemical name                 | Austria   | Switzerland  | Poland                    | Norway                    | Ireland  |
| Glycerol<br>56-81-5           | -   | TWA: 50 mg/m <sup>3</sup><br>STEL: 100 mg/m <sup>3</sup>                                 | TWA: 10 mg/m <sup>3</sup> | -                         | TWA: 10 mg/m <sup>3</sup><br>STEL: 30 mg/m <sup>3</sup>                                  |
| Diethylene glycol<br>111-46-6 | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup><br>STEL 40 ppm<br>STEL 176 mg/m <sup>3</sup> | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup><br>STEL: 40 ppm<br>STEL: 176 mg/m <sup>3</sup>  | TWA: 10 mg/m <sup>3</sup> | -                         | TWA: 23 ppm<br>TWA: 100 mg/m <sup>3</sup><br>STEL: 69 ppm<br>STEL: 300 mg/m <sup>3</sup> |

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

**Appropriate engineering controls** Good general ventilation should be sufficient under normal use.

**Personal protective equipment** Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:

**Eye/face protection** Safety goggles.

**Hand protection** Protective gloves.

**Skin and body protection** Long sleeved clothing and long pants.

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

**Environmental exposure controls** Avoid release to the environment.

**Section 9: Physical and chemical properties**

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

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

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**Appearance**

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Color          | dark blue                |
| Odor           | Slight.                  |
| Odor threshold | No information available |

**Property**

**Values**

**Remarks • Method**

|                                |                          |                                     |
|--------------------------------|--------------------------|-------------------------------------|
| pH                             | 7 - 9                    |                                     |
| Melting point / freezing point | < -5 °C                  |                                     |
| Boiling point / boiling range  | > 100 °C                 |                                     |
| Flash point                    | > 94 °C                  | Tag Closed Cup, Cleveland Open Cup, |
| Evaporation rate               | No data available        | None known                          |
| Flammability (solid, gas)      | No data available        | None known                          |
| Flammability Limit in Air      |                          | None known                          |
| Upper flammability limit:      | No data available        |                                     |
| Lower flammability limit:      | No data available        |                                     |
| Vapor pressure                 | No data available        | None known                          |
| Vapor density                  | No data available        | None known                          |
| Relative density               | 1.0 - 1.1                | (H <sub>2</sub> O=1)                |
| Water solubility               | Soluble in water         |                                     |
| Solubility(ies)                | No data available        | None known                          |
| Partition coefficient          | No data available        | None known                          |
| Autoignition temperature       | > 400 °C                 |                                     |
| Decomposition temperature      | No data available        | None known                          |
| Kinematic viscosity            | No data available        | None known                          |
| Dynamic viscosity              | 1 - 5 mPa s              |                                     |
| Explosive properties           | No information available | No information available.           |
| Oxidizing properties           | No information available |                                     |

**9.2. Other information**

No information available

**Section 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

No information available.

**10.4. Conditions to avoid**

No information available

**10.5. Incompatible materials**



Product Name: LC11C, LC16C, LC38C, LC39C, LC60C, LC61C, LC67C, LC975C,  
LC980C, LC985C, LC990C, LC1100C, LC65HYC, LC67HYC, LC990HYC, LC1100HYC  
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Strong oxidizing agents

**10.6. Hazardous decomposition products**

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

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

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

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

|                        |                 |
|------------------------|-----------------|
| <b>ATEmix (oral)</b>   | 8,713.80 mg/kg  |
| <b>ATEmix (dermal)</b> | 21,394.20 mg/kg |

|  |  |
|--|--|
| <b>Skin corrosion/irritation</b>         | Non-irritant (OECD 404 method)   |
| <b>Serious eye damage/eye irritation</b> | Minimal irritant to the eye (OECD 405 method)  |
| <b>Respiratory or skin sensitization</b> | It is not a skin sensitizer (OECD 429 method)  |
| <b>Germ cell mutagenicity</b>            | AMES test : Negative (OECD 471 method)   |
| <b>Carcinogenicity</b>                   | Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA |

**Section 12: Ecological information**

**12.1. Toxicity**

**Ecotoxicity**

Contains 0 % of components with unknown hazards to the aquatic environment.

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

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| Chemical name                       | Algae/aquatic plants                       | Fish   | Toxicity to microorganisms | Crustacea                           |
|-------------------------------------|--|--|----------------------------|-------------------------------------|
| Glycerol                            | -  | 51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static   | -                          | 500: 24 h Daphnia magna mg/L EC50   |
| Triethylene glycol, monobutyl ether | 500: 72 h Desmodemus subspicatus mg/L EC50 | 2400: 96 h Pimephales promelas mg/L LC50 static 2400: 96 h Pimephales promelas mg/L LC50 2200 - 4600: 96 h Leuciscus idus mg/L LC50 static | -                          | 500: 48 h Daphnia magna mg/L EC50   |
| Diethylene glycol                   | -  | 75200: 96 h Pimephales promelas mg/L LC50 flow-through   | EC50 = 29228 mg/L 15 min   | 84000: 48 h Daphnia magna mg/L EC50 |

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

There is no data for this product.

**Component Information**

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

**12.4. Mobility in soil**

No information available.

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

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6. Other adverse effects**

No information available.

**Section 13: Disposal considerations**

**13.1. Waste treatment methods**

Dispose in accordance with federal, state and local regulations.

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

Safety data sheet number: BHC018-01

## Section 14: Transport information

### IMDG

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

### RID

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

### ADR

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

### IATA

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

## Section 15: Regulatory information

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

#### EU-Regulations

\* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.

\* Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.

\* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

#### National Regulations

No information available

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

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### **15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

## **Section 16: Other information**

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

#### **Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

#### **Legend**

SVHC: Substances of Very High Concern for Authorization:

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

\*\*

Trade secret

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

No information available

**Revision Date** 10-Mar-2020

**Issuing Date** 26-Dec-2007

**Revision Note** No information available

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

#### **Disclaimer**

The information relates only to this product. It may not be valid, if used in combination with any other materials or in any other process, and it is based on our best knowledge as of the date of preparation (revision).

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M, LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM, LC1100HYM Ink

Revision Date: 10-Mar-2020

Issuing Date: 26-Dec-2007

Revision Number: 14

Safety data sheet number: BHM018-01

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

### 1.1. Product identifier

**Product Name** LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M, LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM, LC1100HYM Ink

**Product Form** Mixture

**Safety data sheet number** BHM018-01

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

**Relevant identified uses** These products are dark red ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated. Information provided on this SDS is only consistent with the use specified by Brother.

**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

**Manufacturer** Brother Industries, Ltd.  
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan  
Telephone (for information): +81-52-824-2735

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

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

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

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M, LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM, LC1100HYM Ink

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**2.2. Label elements**

**Regulation (EC) No 1272/2008**

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

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

**2.3. Other hazards**

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical name              | CAS No    | EC No     | EC Index No  | Weight-% | Classification according to Regulation (EC) No. 1272/2008 [CLP]   | REACH Registration Number |
|----------------------------|-----------|-----------|--------------|----------|---|---------------------------|
| Water                      | 7732-18-5 | 231-791-2 | -            | 65-75    | Not classified  | No data available         |
| Glycerol                   | 56-81-5   | 200-289-5 | -            | 10-20    | Not classified  | No data available         |
| Diethylene glycol          | 111-46-6  | 203-872-2 | 603-140-00-6 | 1-5      | Acute Tox. 4 (H302)   | No data available         |
| Magenta Dye2               | **        | -         | -            | <2       | Not classified  | No data available         |
| Magenta Dye (FJM-001B)     | **        | -         | -            | <2       | Eye Irrit. 2 (H319)<br>Skin Sens. 1 (H317)<br>Aquatic Chronic 2 (H411)  | No data available         |
| 1,2-Benzisothiazolin-3-one | 2634-33-5 | 220-120-9 | 613-088-00-6 | <0.05    | Acute Tox. 4 (H302)<br>Skin Irrit. 2 (H315)<br>Eye Dam. 1 (H318)<br>Skin Sens. 1 (H317)<br>Aquatic Acute 1 (H400) | No data available         |

\*\* CONFIDENTIAL

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

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M,  
LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM,  
LC1100HYM Ink

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## Section 4: First aid measures

### 4.1. Description of first aid measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | If symptoms persist, call a physician.   |
| <b>Inhalation</b>     | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.             |
| <b>Skin contact:</b>  | Take off contaminated clothing. Wash off immediately with soap and plenty of water.  |
| <b>Ingestion</b>      | Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.                             |

### 4.2. Most important symptoms and effects, both acute and delayed

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | Skin contact: Repeated and/or prolonged skin contact may cause irritation<br>Eye contact: May cause eye irritation<br>Ingestion: May cause stomach ache. Unlikely route of exposure<br>Inhalation : Unlikely route of exposure |
|-----------------|--|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

## Section 5: Firefighting measures

### 5.1. Extinguishing media

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

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

|   |  |
|---|--|
| <b>Specific hazards arising from the chemical</b> | Thermal decomposition can lead to release of irritating gases and vapors |
|---|--|

### 5.3. Advice for firefighters

|   |  |
|---|--|
| <b>Special protective equipment for fire-fighters</b> | Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source. |
|---|--|

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M, LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM, LC1100HYM Ink

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Revision Number: 14

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## **Section 6: Accidental release measures**

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

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

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**

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

### **6.3. Methods and material for containment and cleaning up**

**Methods for containment** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

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

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### **6.4. Reference to other sections**

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

## **Section 7: Handling and storage**

### **7.1. Precautions for safe handling**

**Advice on safe handling** Keep out of reach of children. Avoid contact with skin and eyes.

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

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

**Storage Conditions** Keep away from oxidizing agents.

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

**Specific use(s)** These products are dark 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.



Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M, LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM, LC1100HYM Ink

Safety data sheet number: BHM018-01

## Section 8: Exposure controls and personal protection

### 8.1. Control parameters

#### Exposure Limits

| Chemical name                 | European Union  | United Kingdom   | France                    | Spain                     | Germany  |
|-------------------------------|---|--|---------------------------|---------------------------|--|
| Glycerol<br>56-81-5           | -   | TWA: 10 mg/m <sup>3</sup><br>STEL: 30 mg/m <sup>3</sup>                                  | TWA: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup> | TWA: 200 mg/m <sup>3</sup>   |
| Diethylene glycol<br>111-46-6 | -   | TWA: 23 ppm<br>TWA: 101 mg/m <sup>3</sup><br>STEL: 69 ppm<br>STEL: 303 mg/m <sup>3</sup> | -                         | -                         | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup>   |
| Chemical name                 | Italy   | Portugal   | Netherlands               | Finland                   | Denmark  |
| Glycerol<br>56-81-5           | -   | TWA: 10 mg/m <sup>3</sup>  | -                         | TWA: 20 mg/m <sup>3</sup> | -  |
| Diethylene glycol<br>111-46-6 | -   | -  | -                         | -                         | TWA: 2.5 ppm<br>TWA: 11 mg/m <sup>3</sup>  |
| Chemical name                 | Austria   | Switzerland  | Poland                    | Norway                    | Ireland  |
| Glycerol<br>56-81-5           | -   | TWA: 50 mg/m <sup>3</sup><br>STEL: 100 mg/m <sup>3</sup>                                 | TWA: 10 mg/m <sup>3</sup> | -                         | TWA: 10 mg/m <sup>3</sup><br>STEL: 30 mg/m <sup>3</sup>                                  |
| Diethylene glycol<br>111-46-6 | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup><br>STEL 40 ppm<br>STEL 176 mg/m <sup>3</sup> | TWA: 10 ppm<br>TWA: 44 mg/m <sup>3</sup><br>STEL: 40 ppm<br>STEL: 176 mg/m <sup>3</sup>  | TWA: 10 mg/m <sup>3</sup> | -                         | TWA: 23 ppm<br>TWA: 100 mg/m <sup>3</sup><br>STEL: 69 ppm<br>STEL: 300 mg/m <sup>3</sup> |

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Appropriate engineering controls** Good general ventilation should be sufficient under normal use.

**Personal protective equipment** Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:

**Eye/face protection** Safety goggles.

**Hand protection** Protective gloves.

**Skin and body protection** Long sleeved clothing and long pants.

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

**Environmental exposure controls** Avoid release to the environment.

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M, LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM, LC1100HYM Ink

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Issuing Date: 26-Dec-2007

Revision Number: 14

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## Section 9: Physical and chemical properties

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

#### Appearance

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

#### Property

#### Values

#### Remarks • Method

|                                |                          |                                     |
|--------------------------------|--------------------------|-------------------------------------|
| pH                             | 7 - 9                    |                                     |
| Melting point / freezing point | < -5 °C                  |                                     |
| Boiling point / boiling range  | > 100 °C                 |                                     |
| Flash point                    | > 94 °C                  | Tag Closed Cup, Cleveland Open Cup, |
| Evaporation rate               | No data available        | None known                          |
| Flammability (solid, gas)      | No data available        | None known                          |
| Flammability Limit in Air      |                          | None known                          |
| Upper flammability limit:      | No data available        |                                     |
| Lower flammability limit:      | No data available        |                                     |
| Vapor pressure                 | No data available        | None known                          |
| Vapor density                  | No data available        | None known                          |
| Relative density               | 1.0 - 1.1                | (H <sub>2</sub> O=1)                |
| Water solubility               | No data available        | None known                          |
| Solubility(ies)                | Soluble in water         |                                     |
| Partition coefficient          | No data available        | None known                          |
| Autoignition temperature       | > 400 °C                 |                                     |
| Decomposition temperature      | No data available        | None known                          |
| Kinematic viscosity            | No data available        | None known                          |
| Dynamic viscosity              | 1 - 5 mPa s              |                                     |
| Explosive properties           | No information available | No information available.           |
| Oxidizing properties           | No information available |                                     |

### 9.2. Other information

No information available

## Section 10: Stability and reactivity

### 10.1. Reactivity

No information available.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No information available.

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M,  
LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM,  
LC1100HYM Ink

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**10.4. Conditions to avoid**

No information available

**10.5. Incompatible materials**

Strong oxidizing agents

**10.6. Hazardous decomposition products**

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

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

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

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

|                        |                 |
|------------------------|-----------------|
| <b>ATEmix (oral)</b>   | 10,517.50 mg/kg |
| <b>ATEmix (dermal)</b> | 44,752.40 mg/kg |

|  |  |
|--|--|
| <b>Skin corrosion/irritation</b>         | Non-irritant (OECD 404 method)   |
| <b>Serious eye damage/eye irritation</b> | Minimal irritant to the eye (OECD 405 method)  |
| <b>Respiratory or skin sensitization</b> | It is not a skin sensitizer (OECD 429 method)  |
| <b>Germ cell mutagenicity</b>            | AMES test : Negative (OECD 471 method)   |
| <b>Carcinogenicity</b>                   | Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA |

**Section 12: Ecological information**

**12.1. Toxicity**

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M, LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM, LC1100HYM Ink

Safety data sheet number: BHM018-01

**Ecotoxicity**

Contains 0 % of components with unknown hazards to the aquatic environment.

| Chemical name     | Algae/aquatic plants | Fish   | Toxicity to microorganisms | Crustacea                           |
|-------------------|----------------------|--|----------------------------|-------------------------------------|
| Glycerol          | -                    | 51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static     | -                          | 500: 24 h Daphnia magna mg/L EC50   |
| Diethylene glycol | -                    | 75200: 96 h Pimephales promelas mg/L LC50 flow-through | EC50 = 29228 mg/L 15 min   | 84000: 48 h Daphnia magna mg/L EC50 |

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

There is no data for this product.

**Component Information**

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

**12.4. Mobility in soil**

No information available.

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

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6. Other adverse effects**

No information available.

**Section 13: Disposal considerations**

**13.1. Waste treatment methods**

Dispose in accordance with federal, state and local regulations.

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M,  
LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM,  
LC1100HYM Ink

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## Section 14: Transport information

### IMDG

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

### RID

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

### ADR

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

### IATA

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

## Section 15: Regulatory information

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

#### EU-Regulations

\* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.

\* Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.

\* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

#### National Regulations

No information available

Product Name: LC11M, LC16M, LC38M, LC39M, LC60M, LC61M, LC67M, LC975M,  
LC980M, LC985M, LC990M, LC1100M, LC65HYM, LC67HYM, LC990HYM,  
LC1100HYM Ink

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## **15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

## **Section 16: Other information**

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

#### **Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H319 - Causes serious eye irritation

H400 - Very toxic to aquatic life

H411 - Toxic to aquatic life with long lasting effects

#### **Legend**

SVHC: Substances of Very High Concern for Authorization:

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

\*\* Trade secret

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

No information available

**Revision Date** 10-Mar-2020

**Issuing Date** 26-Dec-2007

**Revision Note** No information available

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

#### **Disclaimer**

The information relates only to this product. It may not be valid, if used in combination with any other materials or in any other process, and it is based on our best knowledge as of the date of preparation (revision).

Revision Date: 10-Mar-2020

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Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y,  
LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY  
Ink

Safety data sheet number: BHY018-01

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

### 1.1. Product identifier

**Product Name** LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y, LC980Y, LC985Y,  
LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY Ink

**Product Form** Mixture

**Safety data sheet number** BHY018-01

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

**Relevant identified uses** These products are dark yellow ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated. Information provided on this SDS is only consistent with the use specified by Brother.

**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

**Manufacturer** Brother Industries, Ltd.  
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan  
Telephone (for information): +81-52-824-2735

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

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

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

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y,  
LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY  
Ink

Safety data sheet number: BHY018-01

**2.2. Label elements**

**Regulation (EC) No 1272/2008**

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

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

**2.3. Other hazards**

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

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

\*\* CONFIDENTIAL

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



Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y,  
LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY  
Ink

Revision Date: 10-Mar-2020

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## Section 4: First aid measures

### 4.1. Description of first aid measures

|                       |  |
|-----------------------|--|
| <b>General advice</b> | If symptoms persist, call a physician.   |
| <b>Inhalation</b>     | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician. |
| <b>Eye contact</b>    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.             |
| <b>Skin contact:</b>  | Take off contaminated clothing. Wash off immediately with soap and plenty of water.  |
| <b>Ingestion</b>      | Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.                             |

### 4.2. Most important symptoms and effects, both acute and delayed

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | Skin contact: Repeated and/or prolonged skin contact may cause irritation<br>Eye contact: May cause eye irritation<br>Ingestion: May cause stomach ache. Unlikely route of exposure<br>Inhalation : Unlikely route of exposure |
|-----------------|--|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

## Section 5: Firefighting measures

### 5.1. Extinguishing media

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

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

|   |  |
|---|--|
| <b>Specific hazards arising from the chemical</b> | Thermal decomposition can lead to release of irritating gases and vapors |
|---|--|

### 5.3. Advice for firefighters

|   |  |
|---|--|
| <b>Special protective equipment for fire-fighters</b> | Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source. |
|---|--|

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y,  
LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY  
Ink

Revision Date: 10-Mar-2020

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## **Section 6: Accidental release measures**

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

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

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**

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

### **6.3. Methods and material for containment and cleaning up**

**Methods for containment** Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

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

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### **6.4. Reference to other sections**

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

## **Section 7: Handling and storage**

### **7.1. Precautions for safe handling**

**Advice on safe handling** Keep out of reach of children. Avoid contact with skin and eyes.

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

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

**Storage Conditions** Keep away from oxidizing agents.

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

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

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y, LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY Ink

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**Section 8: Exposure controls and personal protection**

**8.1. Control parameters**

**Exposure Limits**

| Chemical name       | European Union | United Kingdom   | France                    | Spain                     | Germany   |
|---------------------|----------------|--|---------------------------|---------------------------|---|
| Glycerol<br>56-81-5 | -              | TWA: 10 mg/m <sup>3</sup><br>STEL: 30 mg/m <sup>3</sup>  | TWA: 10 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup> | TWA: 200 mg/m <sup>3</sup>                              |
| Chemical name       | Italy          | Portugal   | Netherlands               | Finland                   | Denmark   |
| Glycerol<br>56-81-5 | -              | TWA: 10 mg/m <sup>3</sup>                                | -                         | TWA: 20 mg/m <sup>3</sup> | -   |
| Chemical name       | Austria        | Switzerland  | Poland                    | Norway                    | Ireland   |
| Glycerol<br>56-81-5 | -              | TWA: 50 mg/m <sup>3</sup><br>STEL: 100 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup> | -                         | TWA: 10 mg/m <sup>3</sup><br>STEL: 30 mg/m <sup>3</sup> |

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls**

**Appropriate engineering controls** Good general ventilation should be sufficient under normal use.

**Personal protective equipment** Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:

**Eye/face protection** Safety goggles.

**Hand protection** Protective gloves.

**Skin and body protection** Long sleeved clothing and long pants.

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

**Environmental exposure controls** Avoid release to the environment.

**Section 9: Physical and chemical properties**

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

**Appearance**

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

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y, LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY Ink

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| <u>Property</u>                | <u>Values</u>            | <u>Remarks • Method</u>             |
|--------------------------------|--------------------------|-------------------------------------|
| pH                             | 7 - 9                    |                                     |
| Melting point / freezing point | < -5 °C                  |                                     |
| Boiling point / boiling range  | > 100 °C                 |                                     |
| Flash point                    | > 94 °C                  | Tag Closed Cup, Cleveland Open Cup, |
| Evaporation rate               | No data available        | None known                          |
| Flammability (solid, gas)      | No data available        | None known                          |
| Flammability Limit in Air      |                          | None known                          |
| Upper flammability limit:      | No data available        |                                     |
| Lower flammability limit:      | No data available        |                                     |
| Vapor pressure                 | No data available        | None known                          |
| Vapor density                  | No data available        | None known                          |
| Relative density               | 1 - 1.1                  | (H <sub>2</sub> O=1)                |
| Water solubility               | Soluble in water         |                                     |
| Solubility(ies)                | No data available        | None known                          |
| Partition coefficient          | No data available        | None known                          |
| Autoignition temperature       | > 400 °C                 |                                     |
| Decomposition temperature      | No data available        | None known                          |
| Kinematic viscosity            | No data available        | None known                          |
| Dynamic viscosity              | 1 - 5 mPa s              |                                     |
| Explosive properties           | No information available | No information available.           |
| Oxidizing properties           | No information available |                                     |

**9.2. Other information**

No information available

**Section 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

No information available.

**10.4. Conditions to avoid**

No information available

**10.5. Incompatible materials**

Strong oxidizing agents

**10.6. Hazardous decomposition products**

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

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y, LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY Ink

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## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Product Information

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

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

|                        |                 |
|------------------------|-----------------|
| <b>ATEmix (oral)</b>   | 47,459.30 mg/kg |
| <b>ATEmix (dermal)</b> | 25,406.10 mg/kg |

|  |  |
|--|--|
| <b>Skin corrosion/irritation</b>         | Non-irritant (OECD 404 method)   |
| <b>Serious eye damage/eye irritation</b> | Minimal irritant to the eye (OECD 405 method)  |
| <b>Respiratory or skin sensitization</b> | It is not a skin sensitizer (OECD 429 method)  |
| <b>Germ cell mutagenicity</b>            | AMES test : Negative (OECD 471 method)   |
| <b>Carcinogenicity</b>                   | Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA |

## Section 12: Ecological information

### 12.1. Toxicity

#### Ecotoxicity

Contains 0.3 % of components with unknown hazards to the aquatic environment.

| Chemical name                       | Algae/aquatic plants                        | Fish  | Toxicity to microorganisms | Crustacea                         |
|-------------------------------------|---|---|----------------------------|-----------------------------------|
| Glycerol                            | -   | 51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static  | -                          | 500: 24 h Daphnia magna mg/L EC50 |
| Triethylene glycol, monobutyl ether | 500: 72 h Desmodesmus subspicatus mg/L EC50 | 2400: 96 h Pimephales promelas mg/L LC50 static 2400: 96 h Pimephales promelas mg/L LC50 2200 - 4600: | -                          | 500: 48 h Daphnia magna mg/L EC50 |

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Revision Number: 12

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y, LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY Ink

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|  |  |   |  |  |
|--|--|---|--|--|
|  |  | 96 h Leuciscus idus mg/L<br>LC50 static |  |  |
|--|--|---|--|--|

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

There is no data for this product.

**Component Information**

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

**12.4. Mobility in soil**

No information available.

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

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6. Other adverse effects**

No information available.

**Section 13: Disposal considerations**

**13.1. Waste treatment methods**

Dispose in accordance with federal, state and local regulations.

**Section 14: Transport information**

**IMDG**

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

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y,  
LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY  
Ink

Safety data sheet number: BHY018-01

**RID**

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

**ADR**

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

**IATA**

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

**Section 15: Regulatory information**

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

**EU-Regulations**

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

**National Regulations**

No information available

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**Section 16: Other information**

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

**Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction

**Revision Date:** 10-Mar-2020

**Issuing Date:** 26-Dec-2007

Revision Number: 12

Product Name: LC11Y, LC16Y, LC38Y, LC39Y, LC60Y, LC61Y, LC67Y, LC975Y,  
LC980Y, LC985Y, LC990Y, LC1100Y, LC65HYY, LC67HYY, LC990HYY, LC1100HYY  
Ink

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H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

**Legend**

SVHC: Substances of Very High Concern for Authorization:

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

\*\*

Trade secret

**Key literature references and sources for data**

No information available

**Revision Date** 10-Mar-2020

**Issuing Date** 26-Dec-2007

**Revision Note** No information available

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

**Disclaimer**

The information relates only to this product. It may not be valid, if used in combination with any other materials or in any other process, and it is based on our best knowledge as of the date of preparation (revision).