

Product Name: LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC695XLC

Revision Date: 11-Jan-2019

Issuing Date: 26-Sep-2013

Revision Number: 4

Safety data sheet number: BHC026

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

1.1. Product identifier

Product Name LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC695XLC

Product Form Mixture

Safety data sheet number BHC026

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

(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

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)
CHEMTREC +61-290372994 (Australia)

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

Product Name: LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC695XLC

Revision Date: 11-Jan-2019

Issuing Date: 26-Sep-2013

Revision Number: 4

Safety data sheet number: BHC026

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]

Australia Classification

Not classified as hazardous according to the criteria of NOHSC

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

No information available

Section 3: Composition/information on ingredients

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 | Not applicable |
| Glycerol | 56-81-5 | 200-289-5 | - | 10-20 | Not classified | Not applicable |
| Triethylene glycol, monobutyl ether | 143-22-6 | 205-592-6 | 603-183-00-0 | 1-5 | Eye Dam. 1 (H318) | Registered |
| Diethylene glycol | 111-46-6 | 203-872-2 | 603-140-00-6 | 1-9 | Acute Tox. 4 (H302) | Registered |
| Cyan Dye | ** | - | - | 1-8 | Not classified | Not applicable |
| 1,2-Benzisothiazolin-3-one | 2634-33-5 | 220-120-9 | 613-088-00-6 | <0.05 | Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) | Not applicable |

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

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Revision Date: 11-Jan-2019

Issuing Date: 26-Sep-2013

Revision Number: 4

Safety data sheet number: BHC026

Section 4: First aid measures

4.1. Description of first aid measures

| | |
|----------------------|--|
| Inhalation | Remove to fresh air. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin contact: | Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |

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

| | |
|-----------------|--------------------------|
| Symptoms | No information available |
|-----------------|--------------------------|

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

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

Section 5: Firefighting measures

5.1. Extinguishing media

| | |
|-------------------------------------|---|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
|-------------------------------------|---|

| | |
|---------------------------------------|---------------------------|
| Unsuitable extinguishing media | No information available. |
|---------------------------------------|---------------------------|

5.2. Special hazards arising from the substance or mixture

| | |
|---|--------------------------|
| Specific hazards arising from the chemical | No information available |
|---|--------------------------|

5.3. Advice for firefighters

| | |
|---|--|
| Special protective equipment for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
|---|--|

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|------------------------------------|------------------------------|
| For non-emergency personnel | Ensure adequate ventilation. |
|------------------------------------|------------------------------|

Product Name: LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC695XLC

Revision Date: 11-Jan-2019

Issuing Date: 26-Sep-2013

Revision Number: 4

Safety data sheet number: BHC026

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

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 Ensure adequate ventilation.

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 container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Specific use(s) Water based ink for inkjet printing machine

The information required is contained in this Material Safety Data Sheet.

Section 8: Exposure controls and personal protection

8.1. Control parameters

Exposure Limits

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

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Safety data sheet number: BHC026

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

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

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

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

Eye/face protection Safety goggles.

Hand protection Protective gloves.

Skin and body protection Long sleeved clothing and long pants.

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

Environmental exposure controls Avoid release to the environment.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

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

Product Name: LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC695XLC

Safety data sheet number: BHC026

| <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 | >= 93.3 °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 ₂ O=1) |
| Water solubility | Soluble in water | |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | > 400 °C | |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | 2 - 5 mPa s | |
| Explosive properties | 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

None under normal processing.

10.4. Conditions to avoid

None known based on information supplied

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Carbon oxides

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Revision Date: 11-Jan-2019

Issuing Date: 26-Sep-2013

Revision Number: 4

Safety data sheet number: BHC026

Section 11: Toxicological information

11.1. Information on toxicological effects

Product Information

| | |
|--|--|
| Inhalation | No information available |
| Eye contact | No information available |
| Skin contact: | No information available |
| Ingestion | Acute LD ₅₀ > 2000 mg/kg (OECD 420 method) |
| Skin corrosion/irritation | Non-irritant (OECD 404 method) pH: 7-9 |
| Serious eye damage/eye 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 | AMES test : Negative (OECD 471 method) |
| Carcinogenicity | Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA |

Section 12: Ecological information

12.1. Toxicity

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 |
| Triethylene glycol, monobutyl ether | 500: 72 h Desmodosmus 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 |

Product Name: LC201C, LC203C, LC205C, LC211C, LC213C, LC215C, LC221C, LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC645C, LC663C, LC665XLC, LC673C, LC675XLC, LC695XLC

Safety data sheet number: BHC026

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

No information available.

12.6. Other adverse effects

No information available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

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 No information available

RID

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Safety data sheet number: BHC026

| | |
|---------------------------|----------------|
| 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

No information available

National Regulations

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:

Revision Date: 11-Jan-2019

Issuing Date: 26-Sep-2013

Revision Number: 4

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LC223C, LC225XLC, LC231C, LC233C, LC235XLC, LC261C, LC263C, LC645C,
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Safety data sheet number: BHC026

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

Key literature references and sources for data

No information available

Revision Date 11-Jan-2019

Issuing Date 26-Sep-2013

Revision Note Not applicable

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).