

Product Name: LC401Y, LC401XLY, LC411Y, LC411XLY, LC421Y, LC421XLY,
LC431Y, LC431XLY, LC431XXLY, LC451Y, LC451XLY, LC451XXLY

Revision Date: 03-Sep-2021

Issuing Date: 18-Nov-2020

Revision Number: 2

Safety data sheet number: BHY273

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

1.1. Product identifier

Product Name LC401Y, LC401XLY, LC411Y, LC411XLY, LC421Y, LC421XLY, LC431Y, LC431XLY,
LC431XXLY, LC451Y, LC451XLY, LC451XXLY

Product Form Mixture

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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 (Europe)
Brother International Europe Ltd.
1 Tame Street, Audenshaw, Manchester M34 5JE, UK
Brother International (Nederland) B.V.
Zanderij 25, 1185 ZM Amstelveen, The Netherlands
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]

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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-% | Specific concentration limit (SCL) | Classification according to Regulation (EC) No. 1272/2008 [CLP] | REACH Registration Number |
|-------------------------------------|-----------|-----------|--------------|----------|--|---|---------------------------|
| Water | 7732-18-5 | 231-791-2 | - | 65-80 | - | Not classified | Not applicable |
| Glycerol | 56-81-5 | 200-289-5 | - | 5-15 | - | Not classified | Not applicable |
| Triethylene glycol, monobutyl ether | 143-22-6 | 205-592-6 | 603-183-00-0 | 1-5 | Eye Dam. 1 :: C>=30% Eye Irrit. 2 :: 20%<=C<30% | Eye Dam. 1 (H318) | 01-2119475107-38-XXXX |
| 1,2-Benzisothiazolin-3-one | 2634-33-5 | 220-120-9 | 613-088-00-6 | <0.05 | Skin Sens. 1 :: C>=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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Section 4: First aid measures

4.1. Description of first aid measures

| | |
|-----------------------|--|
| General advice | If symptoms persist, call a physician. |
| Inhalation | Remove to fresh air. Get immediate medical advice/attention. |
| 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 | Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink. |

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

| | |
|-----------------|---|
| Symptoms | Inhalation (Vapor / Mist) : No specific effects and/or symptoms have been reported or known For large quantities: May cause irritation to the respiratory system. Increased difficulty in breathing. Sneezing. Coughing |
|-----------------|---|

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

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

Section 5: Firefighting measures

5.1. Extinguishing media

| | |
|---------------------------------------|---|
| Suitable Extinguishing Media | Dry chemical, CO ₂ , 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 and toxic gases and vapors Carbon monoxide Carbon dioxide (CO ₂) Nitrogen oxides (NO _x) Oxides of sulfur |
|---|--|

5.3. Advice for firefighters

| | |
|---|---|
| Special protective equipment for fire-fighters | Wear self contained breathing apparatus for fire fighting if necessary. |
|---|---|

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Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid contact with skin, eyes or clothing

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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 Avoid contact with skin, eyes or clothing.

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 out of the reach of children. Store in a cool, well ventilated area.

7.3. Specific end use(s)

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

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 |
| Chemical name | Italy | Portugal | Netherlands | Finland | Denmark |
| Glycerol 56-81-5 | - | TWA: 10 mg/m ³ | - | TWA: 20 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 | - | - |

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Appropriate engineering controls No information available.

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 If there is a risk of contact:, Apron, Boots

Respiratory protection Use appropriate respiratory protection.

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 |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|--------------------------------|--------------------------|------------------------------------|
| pH | 7 - 9 | |
| pH (as aqueous solution) | No information available | |
| 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 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 | |
| Oxidizing properties | No information available | |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No information available

9.2.2. Other safety characteristics

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

Keep away from heat, Keep away from water or moist air

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10.5. Incompatible materials

Acids, Bases, Oxidizing agent, Reducing agent

10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Oxides of sulfur

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) |
| Serious eye damage/eye irritation | Minimal irritant to the eye (OECD 405 method) |
| Respiratory or skin sensitization | Respiratory sensitization : No information available 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 |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available |
| Aspiration hazard | No information available. |

Potential health effects

Eye : May cause slight irritation
 Skin : Prolonged exposure may cause skin irritation
 Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
 Inhalation : Not an expected route of exposure

11.2. Information on other hazards

No information available

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity

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

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

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

No information available.

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

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Section 13: Disposal considerations

13.1. Waste treatment methods

Dispose in accordance with federal, state and local regulations.

Section 14: Transport information

IMDG

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

RID

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

ADR

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

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 |

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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

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) |
| Ceiling | Ceiling Limit Value | ** | Trade secret |

Key literature references and sources for data

No information available

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Revision Note

SDS sections updated : 1

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).