

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017BK, LC3019BK, LC3029BK, LC3037BK, LC3038BK,
LC3039BK, LC3117BK, LC3119BK, LC3129BK, LC3137BK, LC3139BK, LC3159BK,
LC3217BK, LC3219BK, LC3229BK, LC3237BK, LC3239BK, LC3259BK, LC3317BK,
LC3319BK, LC3329BK, LC3337BK, LC3339BK, LC3617BK, LC3619BK, LC3717BK,
LC3719BK, LC3919BK

Safety data sheet number: BHK071

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

1.1. Product identifier

Product Name LC3017BK, LC3019BK, LC3029BK, LC3037BK, LC3038BK, LC3039BK, LC3117BK, LC3119BK, LC3129BK, LC3137BK, LC3139BK, LC3159BK, LC3217BK, LC3219BK, LC3229BK, LC3237BK, LC3239BK, LC3259BK, LC3317BK, LC3319BK, LC3329BK, LC3337BK, LC3339BK, LC3617BK, LC3619BK, LC3717BK, LC3719BK, LC3919BK

Product Form Mixture

Safety data sheet number BHK071

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 (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

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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	-	60-70	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	15-25	Not classified	Not applicable
Carbon Black	1333-86-4	215-609-9	-	5-9	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
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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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.
For emergency responders	Use personal protection recommended in Section 8.

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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
Carbon Black 1333-86-4	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 3.5 mg/m ³	TWA: 3.5 mg/m ³	-

Product Name: LC3017BK, LC3019BK, LC3029BK, LC3037BK, LC3038BK, LC3039BK, LC3117BK, LC3119BK, LC3129BK, LC3137BK, LC3139BK, LC3159BK, LC3217BK, LC3219BK, LC3229BK, LC3237BK, LC3239BK, LC3259BK, LC3317BK, LC3319BK, LC3329BK, LC3337BK, LC3339BK, LC3617BK, LC3619BK, LC3717BK, LC3719BK, LC3919BK

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Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m ³	-	TWA: 20 mg/m ³	-
Carbon Black 1333-86-4	-	TWA: 3.5 mg/m ³	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 3.5 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
Carbon Black 1333-86-4	-	-	TWA: 4.0 mg/m ³	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 3 mg/m ³ STEL: 15 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 No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

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	

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Melting point / freezing point	< -5 °C	
Boiling point / boiling range	> 100 °C	
Flash point	> 94 °C	
Evaporation rate	No data available	Tag Closed Cup, Cleveland Open Cup,
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

None known based on information supplied

10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NO_x), Oxides of sulfur

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LC3719BK, LC3919BK

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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	Not classified Acute LD ₅₀ > 2000 mg/kg (OECD 423 method)

Skin corrosion/irritation Not classified
Non-irritant (OECD 404 method)

Serious eye damage/eye irritation Not classified
Practically non-irritant (OECD 405 method)

Respiratory or skin sensitization Not classified
It is not a skin sensitizer (OECD 442B method)

Germ cell mutagenicity 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

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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
Carbon Black	-	-	-	EC50: >5600mg/L (24h, Daphnia magna)
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: 96 h Leuciscus idus mg/L LC50 static	-	500: 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
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.

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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

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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LC3719BK, LC3919BK

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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 information available

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)

Ceiling Ceiling Limit Value

STEL

**

STEL (Short Term Exposure Limit)

Trade secret

Key literature references and sources for data

No information available

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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).

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Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
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LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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

1.1. Product identifier

Product Name LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C,
LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C,
LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C,
LC3919C

Product Form Mixture

Safety data sheet number BHC071

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

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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	-	60-70	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	15-25	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
Colorant	**	**	-	1-5	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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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.

For emergency responders Use personal protection recommended in Section 8.

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

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

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

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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

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 No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

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

Property

<u>Property</u>	<u>Values</u>
pH	7 - 9
Melting point / freezing point	< -5 °C
Boiling point / boiling range	> 100 °C
Flash point	> 94 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available

Remarks • Method

Tag Closed Cup, Cleveland Open Cup,
None known
None known
None known

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Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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

None known based on information supplied

10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NO_x), Oxides of sulfur

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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	Not classified Acute LD ₅₀ > 2000 mg/kg (OECD 423 method)

Skin corrosion/irritation Not classified
Non-irritant (OECD 404 method)

Serious eye damage/eye irritation Not classified
Minimal irritant to the eye (OECD 405 method)

Respiratory or skin sensitization Not classified
It is not a skin sensitizer (OECD 442B 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

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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 Desmodesmus 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

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. Other adverse effects

No information available.

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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

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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Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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 information available

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)

Ceiling Ceiling Limit Value

STEL

**

STEL (Short Term Exposure Limit)

Trade secret

Key literature references and sources for data

No information available

Revision Date 31-Aug-2018

Issuing Date 15-Oct-2015

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).

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Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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

1.1. Product identifier

Product Name LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M, LC3117M, LC3119M, LC3129M,
LC3137M, LC3139M, LC3159M, LC3217M, LC3219M, LC3229M, LC3237M, LC3239M, LC3259M,
LC3317M, LC3319M, LC3329M, LC3337M, LC3339M, LC3617M, LC3619M, LC3717M, LC3719M,
LC3919M

Product Form Mixture

Safety data sheet number BHM071

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 (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

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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	-	60-70	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	15-25	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
Colorant	**	**	-	2-6	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

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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.

For emergency responders Use personal protection recommended in Section 8.

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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

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 No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid
Color	magenta
Odor	Slight.
Odor threshold	No information available

Property

<u>Property</u>	<u>Values</u>
pH	7 - 9
Melting point / freezing point	< -5 °C
Boiling point / boiling range	> 100 °C
Flash point	> 94 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available

Remarks • Method

Tag Closed Cup, Cleveland Open Cup,
None known
None known
None known

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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

None known based on information supplied

10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NO_x), Oxides of sulfur

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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	Not classified Acute LD ₅₀ > 2000 mg/kg (OECD 423 method)

Skin corrosion/irritation Not classified
Non-irritant (OECD 404 method)

Serious eye damage/eye irritation Not classified
Practically non-irritant (OECD 405 method)

Respiratory or skin sensitization Not classified
It is not a skin sensitizer (OECD 442B 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

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M, LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M, LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M, LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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 Desmodesmus 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

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. Other adverse effects

No information available.

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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

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

Revision Date: 31-Aug-2018

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Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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 information available

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)

Ceiling Ceiling Limit Value

STEL

**

STEL (Short Term Exposure Limit)

Trade secret

Key literature references and sources for data

No information available

Revision Date 31-Aug-2018

Issuing Date 15-Oct-2015

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).

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017Y, LC3019Y, LC3029Y, LC3037Y, LC3038Y, LC3039Y,
LC3117Y, LC3119Y, LC3129Y, LC3137Y, LC3139Y, LC3159Y, LC3217Y, LC3219Y,
LC3229Y, LC3237Y, LC3239Y, LC3259Y, LC3317Y, LC3319Y, LC3329Y, LC3337Y,
LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

Safety data sheet number: BHY071

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

1.1. Product identifier

Product Name LC3017Y, LC3019Y, LC3029Y, LC3037Y, LC3038Y, LC3039Y, LC3117Y, LC3119Y, LC3129Y,
LC3137Y, LC3139Y, LC3159Y, LC3217Y, LC3219Y, LC3229Y, LC3237Y, LC3239Y, LC3259Y,
LC3317Y, LC3319Y, LC3329Y, LC3337Y, LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y,
LC3919Y

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.
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: LC3017Y, LC3019Y, LC3029Y, LC3037Y, LC3038Y, LC3039Y,
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LC3229Y, LC3237Y, LC3239Y, LC3259Y, LC3317Y, LC3319Y, LC3329Y, LC3337Y,
LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

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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	-	55-65	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	20-30	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
Colorant	**	**	-	1-5	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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LC3229Y, LC3237Y, LC3239Y, LC3259Y, LC3317Y, LC3319Y, LC3329Y, LC3337Y,
LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

Safety data sheet number: BHY071

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.

For emergency responders Use personal protection recommended in Section 8.

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LC3229Y, LC3237Y, LC3239Y, LC3259Y, LC3317Y, LC3319Y, LC3329Y, LC3337Y,
LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

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

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LC3229Y, LC3237Y, LC3239Y, LC3259Y, LC3317Y, LC3319Y, LC3329Y, LC3337Y,
LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

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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

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 No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

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

Property

<u>Property</u>	<u>Values</u>
pH	7 - 9
Melting point / freezing point	< -5 °C
Boiling point / boiling range	> 100 °C
Flash point	> 94 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available

Remarks • Method

Tag Closed Cup, Cleveland Open Cup,
None known
None known
None known

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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

None known based on information supplied

10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NO_x), Oxides of sulfur

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LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

Safety data sheet number: BHY071

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	Not classified Acute LD ₅₀ > 2000 mg/kg (OECD 423 method)

Skin corrosion/irritation Not classified
Non-irritant (OECD 404 method)

Serious eye damage/eye irritation Not classified
Minimal irritant to the eye (OECD 405 method)

Respiratory or skin sensitization Not classified
It is not a skin sensitizer (OECD 442B 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

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Safety data sheet number: BHY071

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 Desmodesmus 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

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. Other adverse effects

No information available.

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Safety data sheet number: BHY071

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

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

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National Regulations

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No information available

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)

Ceiling Ceiling Limit Value

STEL

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STEL (Short Term Exposure Limit)

Trade secret

Key literature references and sources for data

No information available

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