

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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

1.1. Product identifier

Product Name LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Product Form Mixture

Safety data sheet number BHC249

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.
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

Revision Date: 23-Dec-2020

Issuing Date: 19-Feb-2020

Revision Number: 3

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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]

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

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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	-	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	5-9	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

Section 4: First aid measures

4.1. Description of first aid measures

General advice	If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. 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.

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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, CO₂, 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 (CO₂) , Nitrogen oxides (NOx) , Oxides of sulfur

5.3. Advice for firefighters

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

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

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

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.

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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. Keep cool. Protect from sunlight.

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	-	-

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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 blue
Odor Slight
Odor threshold No information available

Property

Values

Remarks • Method

pH	7 - 9	
pH (as aqueous solution)	No data 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

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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

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

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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 423 method)

Skin corrosion/irritation	Non-irritant (OECD 404 method)
Serious eye damage/eye irritation	Non-irritant (OECD 405 method)
Respiratory or skin sensitization	Respiratory sensitization : No information available 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
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 Over exposure may cause respiratory irritation.

11.2. Information on other hazards

No information available

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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

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

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

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Dispose in accordance with federal, state and local regulations.

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

Section 14: Transport information

IMDG

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

RID

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

ADR

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

IATA

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

Section 15: Regulatory information

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

EU-Regulations

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

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

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

National Regulations

Revision Date: 23-Dec-2020

Issuing Date: 19-Feb-2020

Revision Number: 3

Product Name: LC402C, LC402XLC, LC406C, LC406LC, LC406XLC, LC412C, LC412XLC, LC416C, LC416XLC, LC417XLC, LC418XLC, LC422C, LC422XLC, LC426C, LC426XLC, LC427C, LC427XLC, LC428XLC, LC432C, LC432XLC, LC436C, LC436XLC, LC456C, LC456XLC, LC462C, LC462XLC, LC472C, LC472XLC, LC492XLC

Safety data sheet number: BHC249

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

Revision Date 23-Dec-2020

Issuing Date 19-Feb-2020

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

Disclaimer

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

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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

1.1. Product identifier

Product Name LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Product Form Mixture

Safety data sheet number BHM249

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.
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

Revision Date: 23-Dec-2020

Issuing Date: 19-Feb-2020

Revision Number: 3

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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]

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

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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	-	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 :: 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

Section 4: First aid measures

4.1. Description of first aid measures

General advice	If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. 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.

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Safety data sheet number: BHM249

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, CO₂, 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 (CO₂) , Nitrogen oxides (NOx) , Oxides of sulfur

5.3. Advice for firefighters

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

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

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

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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. Keep cool. Protect from sunlight.

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	-

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

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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	-	-

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 magenta
Odor Slight
Odor threshold No information available

Property

pH 7 - 9
pH (as aqueous solution) No data available
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

Remarks • Method

Tag Closed Cup, Cleveland Open Cup
None known
None known

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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

10.5. Incompatible materials

Acids, Bases, Oxidizing agent, Reducing agent

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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 423 method)

Skin corrosion/irritation	Non-irritant (OECD 404 method)
Serious eye damage/eye irritation	Non-irritant (OECD 405 method)
Respiratory or skin sensitization	Respiratory sensitization : No information available 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
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available
Aspiration hazard	No information available.

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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 Over exposure may cause respiratory irritation.

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

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

12.6. Endocrine disrupting properties

No information available.

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

12.7. Other adverse effects

No information available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Dispose in accordance with federal, state and local regulations.

Section 14: Transport information

IMDG

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

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: 23-Dec-2020

Issuing Date: 19-Feb-2020

Revision Number: 3

Product Name: LC402M, LC402XLM, LC406M, LC406LM, LC406XLM, LC412M, LC412XLM, LC416M, LC416XLM, LC417XLM, LC418XLM, LC422M, LC422XLM, LC426M, LC426XLM, LC427M, LC427XLM, LC428XLM, LC432M, LC432XLM, LC436M, LC436XLM, LC456M, LC456XLM, LC462M, LC462XLM, LC472M, LC472XLM, LC492XLM

Safety data sheet number: BHM249

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

Revision Date 23-Dec-2020

Issuing Date 19-Feb-2020

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

Disclaimer

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

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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

1.1. Product identifier

Product Name LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Product Form Mixture

Safety data sheet number BHY249

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

Revision Date: 23-Dec-2020

Issuing Date: 19-Feb-2020

Revision Number: 3

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y,
LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY,
LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y,
LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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]

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

Revision Date: 23-Dec-2020

Issuing Date: 19-Feb-2020

Revision Number: 3

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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	-	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 :: 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

Section 4: First aid measures

4.1. Description of first aid measures

General advice	If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. 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.

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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, CO₂, 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 (CO₂) , Nitrogen oxides (NOx) , Oxides of sulfur

5.3. Advice for firefighters

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

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

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

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.

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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. Keep cool. Protect from sunlight.

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.

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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 data 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

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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

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

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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 423 method)

Skin corrosion/irritation	Non-irritant (OECD 404 method)
Serious eye damage/eye irritation	Non-irritant (OECD 405 method)
Respiratory or skin sensitization	Respiratory sensitization : No information available 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
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 Over exposure may cause respiratory irritation.

11.2. Information on other hazards

No information available

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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, Oncorhynchus mykiss)	-	-
Triethylene glycol, monobutyl ether	EC50: >500mg/L (72h, Desmodesmus subspicatus)	LC50: =2400mg/L (96h, Pimephales promelas)	-	EC50: >500mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

There is no data for this product.

Component Information

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

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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

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

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Dispose in accordance with federal, state and local regulations.

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y, LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY, LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y, LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

Section 14: Transport information

IMDG

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

RID

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

ADR

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

IATA

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

Section 15: Regulatory information

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

EU-Regulations

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

National Regulations

Revision Date: 23-Dec-2020

Issuing Date: 19-Feb-2020

Revision Number: 3

Product Name: LC402Y, LC402XLY, LC406Y, LC406LY, LC406XLY, LC412Y,
LC412XLY, LC416Y, LC416XLY, LC417XLY, LC418XLY, LC422Y, LC422XLY,
LC426Y, LC426XLY, LC427Y, LC427XLY, LC428XLY, LC432Y, LC432XLY, LC436Y,
LC436XLY, LC456Y, LC456XLY, LC462Y, LC462XLY, LC472Y, LC472XLY, LC492XLY

Safety data sheet number: BHY249

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

Revision Date 23-Dec-2020

Issuing Date 19-Feb-2020

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

Disclaimer

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

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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

1.1. Product identifier

Product Name LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Product Form Mixture

Safety data sheet number BHK249

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.
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

Revision Date: 07-Jul-2021

Issuing Date: 19-Feb-2020

Revision Number: 4

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK,
LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK,
LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK,
LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK,
LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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]

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

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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	-	60-70	-	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	15-25	-	Not classified	Not applicable
Carbon Black	1333-86-4	215-609-9 435-640-3	-	5-9	-	Not classified	01-2119384822-32-XXXX
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
2,2'-(ethylenedioxy)diethanol	112-27-6	203-953-2	-	1-5	-	Not classified	Registered
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

Section 4: First aid measures

4.1. Description of first aid measures

General advice

If symptoms persist, call a physician.

Inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. 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.

Revision Date: 07-Jul-2021

Issuing Date: 19-Feb-2020

Revision Number: 4

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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, CO₂, 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 (CO₂) , 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.

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.

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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 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. Keep cool. Protect from sunlight.

7.3. Specific end use(s)

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

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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	-
2,2'-(ethylenedioxy)diethanol 112-27-6	-	-	-	-	TWA: 1000 mg/m ³
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 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	-	-
Carbon Black 1333-86-4	-	-	TWA: 4 mg/m ³	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 3 mg/m ³ STEL: 15 mg/m ³
2,2'-(ethylenedioxy)diethanol 112-27-6	-	TWA: 1000 mg/m ³ STEL: 2000 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

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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	black
Odor	Slight
Odor threshold	No information available

Property

Property	Values	Remarks • Method
pH	7 - 9	
pH (as aqueous solution)	No data 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

Revision Date: 07-Jul-2021

Issuing Date: 19-Feb-2020

Revision Number: 4

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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

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 423 method)

Skin corrosion/irritation Non-irritant (OECD 404 method)

Serious eye damage/eye irritation Non-irritant (OECD 405 method)

Revision Date: 07-Jul-2021

Issuing Date: 19-Feb-2020

Revision Number: 4

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

Respiratory or skin sensitization	Respiratory sensitization : No information available 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
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 Over exposure may cause respiratory irritation.

11.2. Information on other hazards

No information available

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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>)	-	-
Carbon Black	-	1000:96 h <i>Brachydanio rerio</i> mg/L LC50	-	-
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>)
2,2'-(ethylenedioxy)diethanol	-	LC50: 56200 - 63700mg/L (96h, <i>Pimephales promelas</i>) LC50: =10000mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =61000mg/L (96h, <i>Lepomis macrochirus</i>)	-	EC50: =42426mg/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
2,2'-(ethylenedioxy)diethanol	-1.98
1,2-Benzisothiazolin-3-one	1.3

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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

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

12.6. Endocrine disrupting properties

No information available.

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK, LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK, LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK, LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK, LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

12.7. Other adverse effects

No information available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Dispose in accordance with federal, state and local regulations.

Section 14: Transport information

IMDG

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

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: 07-Jul-2021

Issuing Date: 19-Feb-2020

Revision Number: 4

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK,
LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK,
LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK,
LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK,
LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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

Revision Date 07-Jul-2021

Issuing Date 19-Feb-2020

Revision Note

SDS sections updated : 3

Revision Date: 07-Jul-2021

Issuing Date: 19-Feb-2020

Revision Number: 4

Product Name: LC402BK, LC402XLBK, LC406BK, LC406LBK, LC406XLBK,
LC412BK, LC412XLBK, LC416BK, LC416XLBK, LC417XLBK, LC418XLBK, LC422BK,
LC422XLBK, LC426BK, LC426XLBK, LC427BK, LC427XLBK, LC428XLBK, LC432BK,
LC432XLBK, LC436BK, LC436XLBK, LC456BK, LC456XLBK, LC462BK, LC462XLBK,
LC472BK, LC472XLBK, LC492XLBK

Safety data sheet number: BHK249

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).