

Product Name: LC404M, LC414M, LC424M

Revision Date: -  
Issuing Date: 08-Jan-2021

Revision Number: 1  
Safety data sheet number: BHM253-01

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

### 1.1. Product identifier

Product Name LC404M, LC414M, LC424M  
Product Form Mixture  
Safety data sheet number BHM253-01

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

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

Uses advised against No information available

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

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

**Importer** (Europe)  
Brother International Europe Ltd.  
1 Tame Street, Audenshaw, Manchester M34 5JE, UK  
Brother International (Nederland) B.V.  
Zanderij 25, 1185 ZM Amstelveen, The Netherlands  
Telephone (for information): +44-161-330-6531

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

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

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

### 2.2. Label elements

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

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

Product Name: LC404M, LC414M, LC424M

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

**2.3. Other hazards**

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

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

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	CAS No	EC No	EC Index No	Weight-%	Specific concentration limit (SCL)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	65-80	-	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	10-20	-	Not classified	Not applicable
Magenta Dye	**	**	**	<2.5	-	Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)	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

\*\* CONFIDENTIAL

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** Remove to fresh air. Get immediate medical advice/attention.

**Eye contact** In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical advice/attention.

Product Name: LC404M, LC414M, LC424M

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021

Revision Number: 1  
Safety data sheet number: BHM253-01

**Skin contact:** Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.

**Ingestion** Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.

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

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

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

**Note to physicians** Treat symptomatically.

**Section 5: Firefighting measures**

**5.1. Extinguishing media**

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

**Unsuitable extinguishing media** None

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

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon monoxide Carbon dioxide (CO<sub>2</sub>) 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 substance entering sewers. Washings must be prevented from entering surface water drains.

Product Name: LC404M, LC414M, LC424M

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHM253-01

**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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 20 mg/m <sup>3</sup>	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	-

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

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

Product Name: LC404M, LC414M, LC424M

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021

Revision Number: 1  
Safety data sheet number: BHM253-01

**8.2. Exposure controls**

<b>Appropriate engineering controls</b>	Good general ventilation should be sufficient under normal use.
<b>Personal protective equipment</b>	Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:
<b>Eye/face protection</b>	Safety goggles.
<b>Hand protection</b>	Protective gloves.
<b>Skin and body protection</b>	If there is a risk of contact:, Apron, Boots
<b>Respiratory protection</b>	Use appropriate respiratory protection.
<b>Environmental exposure controls</b>	Avoid release to the environment.

**Section 9: Physical and chemical properties**

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

<b>Appearance</b>	
Physical state	Liquid
Color	dark red
<b>Odor</b>	Slight
<b>Odor threshold</b>	No information available

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

Product Name: LC404M, LC414M, LC424M

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021

Revision Number: 1  
Safety data sheet number: BHM253-01

**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**

None.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

None under normal processing.

**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 (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Oxides of sulfur

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

<b>Inhalation</b>	No information available
<b>Eye contact</b>	No information available
<b>Skin contact:</b>	No information available
<b>Ingestion</b>	Acute LD <sub>50</sub> > 2000 mg/kg (OECD 420 method)
<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)

Product Name: LC404M, LC414M, LC424M

<b>Serious eye damage/eye irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	Respiratory sensitization : No information available It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	AMES test : Negative (OECD 471 method)
<b>Carcinogenicity</b>	Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available
<b>Aspiration hazard</b>	No information available.
<b>Potential health effects</b>	Eye : May cause slight irritation Skin : Prolonged exposure may cause skin irritation Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Inhalation : Not an expected route of exposure

**11.2. Information on other hazards**

No information available

**Section 12: Ecological information**

**12.1. Toxicity**

**Ecotoxicity**

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	-	-

**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

There is no data for this product.

**Component Information**

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

**12.4. Mobility in soil**

No information available.

Product Name: LC404M, LC414M, LC424M

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

No information available.

**12.6. Endocrine disrupting properties**

No information available.

**12.7. Other adverse effects**

No information available.

**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



Product Name: LC404M, LC414M, LC424M

Revision Date: -  
Issuing Date: 08-Jan-2021

Revision Number: 1  
Safety data sheet number: BHM253-01

14.6 Special Provisions None

## Section 15: Regulatory information

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

#### EU-Regulations

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

#### National Regulations

No information available

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## Section 16: Other information

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

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

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H319 - Causes serious eye irritation  
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 -

Issuing Date 08-Jan-2021

#### Revision Note

No information available

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

#### Disclaimer

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

Product Name: LC404Y, LC414Y, LC424Y

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHY253-01

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

### 1.1. Product identifier

**Product Name** LC404Y, LC414Y, LC424Y  
**Product Form** Mixture  
**Safety data sheet number** BHY253-01

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

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

**Uses advised against** No information available

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

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

**Importer** (Europe)  
Brother International Europe Ltd.  
1 Tame Street, Audenshaw, Manchester M34 5JE, UK  
Brother International (Nederland) B.V.  
Zanderij 25, 1185 ZM Amstelveen, The Netherlands  
Telephone (for information): +44-161-330-6531

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

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

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

### 2.2. Label elements

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

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

Product Name: LC404Y, LC414Y, LC424Y

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHY253-01

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

**2.3. Other hazards**

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

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	CAS No	EC No	EC Index No	Weight-%	Specific concentration limit (SCL)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	65-80	-	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	5-15	-	Not classified	Not applicable
Triethylene glycol, monobutyl ether	143-22-6	205-592-6	603-183-00-0	1-5	Eye Dam. 1 :: C>=30% Eye Irrit. 2 :: 20%<=C<30%	Eye Dam. 1 (H318)	01-2119475107-38-XXXX
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	<0.05	Skin Sens. 1 :: C>=0.05%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	Not applicable

\*\* CONFIDENTIAL

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** Remove to fresh air. Get immediate medical advice/attention.

Product Name: LC404Y, LC414Y, LC424Y

<b>Eye contact</b>	In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical advice/attention.
<b>Skin contact:</b>	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.

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

<b>Symptoms</b>	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**

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

**Section 5: Firefighting measures**

**5.1. Extinguishing media**

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

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

<b>Specific hazards arising from the chemical</b>	Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon monoxide Carbon dioxide (CO <sub>2</sub> ) Nitrogen oxides (NO <sub>x</sub> ) Oxides of sulfur
---	--

**5.3. Advice for firefighters**

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

**Section 6: Accidental release measures**

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

<b>For non-emergency personnel</b>	Avoid contact with skin, eyes or clothing
<b>For emergency responders</b>	Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

<b>Environmental precautions</b>	Prevent substance entering sewers. Washings must be prevented from entering surface water drains.
----------------------------------	---

Product Name: LC404Y, LC414Y, LC424Y

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHY253-01

**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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 20 mg/m <sup>3</sup>	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	-

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

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

Product Name: LC404Y, LC414Y, LC424Y

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHY253-01

**8.2. Exposure controls**

<b>Appropriate engineering controls</b>	Good general ventilation should be sufficient under normal use.
<b>Personal protective equipment</b>	Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:
<b>Eye/face protection</b>	Safety goggles.
<b>Hand protection</b>	Protective gloves.
<b>Skin and body protection</b>	If there is a risk of contact:, Apron, Boots
<b>Respiratory protection</b>	Use appropriate respiratory protection.
<b>Environmental exposure controls</b>	Avoid release to the environment.

**Section 9: Physical and chemical properties**

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

<b>Appearance</b>	
<b>Physical state</b>	Liquid
<b>Color</b>	dark yellow
<b>Odor</b>	Slight
<b>Odor threshold</b>	No information available

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

Product Name: LC404Y, LC414Y, LC424Y

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHY253-01

---

**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**

None.

**10.2. Chemical stability**

Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

None under normal processing.

**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 (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Oxides of sulfur

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

<b>Inhalation</b>	No information available
<b>Eye contact</b>	No information available
<b>Skin contact:</b>	No information available
<b>Ingestion</b>	Acute LD <sub>50</sub> > 2000 mg/kg (OECD 420 method)
<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)

Product Name: LC404Y, LC414Y, LC424Y

<b>Serious eye damage/eye irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	Respiratory sensitization : No information available It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	AMES test : Negative (OECD 471 method)
<b>Carcinogenicity</b>	Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available
<b>Aspiration hazard</b>	No information available.
<b>Potential health effects</b>	Eye : May cause slight irritation Skin : Prolonged exposure may cause skin irritation Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Inhalation : Not an expected route of exposure

**11.2. Information on other hazards**

No information available

**Section 12: Ecological information**

**12.1. Toxicity**

**Ecotoxicity**

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol	-	LC50: 51 - 57mL/L (96h, 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



Product Name: LC404Y, LC414Y, LC424Y

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHY253-01

Triethylene glycol, monobutyl ether	0.51
1,2-Benzisothiazolin-3-one	1.3

**12.4. Mobility in soil**

No information available.

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

No information available.

**12.6. Endocrine disrupting properties**

No information available.

**12.7. Other adverse effects**

No information available.

**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

Product Name: LC404Y, LC414Y, LC424Y

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHY253-01

**IATA**

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

**Section 15: Regulatory information**

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

**EU-Regulations**

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

**National Regulations**

No information available

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

**Section 16: Other information**

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

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

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

**Issuing Date** 08-Jan-2021

**Revision Note**

No information available

**Revision Date:** -

**Issuing Date:** 08-Jan-2021

**Revision Number:** 1

**Safety data sheet number:** BHY253-01

Product Name: LC404Y, LC414Y, LC424Y

---

**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: LC404BK, LC414BK, LC424BK

Revision Date: -  
Issuing Date: 08-Jan-2021  
Revision Number: 1  
Safety data sheet number: BHK253-01

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

### 1.1. Product identifier

Product Name LC404BK, LC414BK, LC424BK  
Product Form Mixture  
Safety data sheet number BHK253-01

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

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

Uses advised against No information available

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

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

**Importer** (Europe)  
Brother International Europe Ltd.  
1 Tame Street, Audenshaw, Manchester M34 5JE, UK  
Brother International (Nederland) B.V.  
Zanderij 25, 1185 ZM Amstelveen, The Netherlands  
Telephone (for information): +44-161-330-6531

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture *Regulation (EC) No 1272/2008*

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

### 2.2. Label elements *Regulation (EC) No 1272/2008*

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

Product Name: LC404BK, LC414BK, LC424BK

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHK253-01

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

**2.3. Other hazards**

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

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	CAS No	EC No	EC Index No	Weight-%	Specific concentration limit (SCL)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	60-70	-	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	5-15	-	Not classified	Not applicable
Diethylene glycol	111-46-6	203-872-2	603-140-00-6	5-9	-	Acute Tox. 4 (H302)	01-2119457857-21-XXXX
Carbon Black	1333-86-4	215-609-9	-	5-9	-	Not classified	01-2119384822-32-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

\*\* CONFIDENTIAL

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** Remove to fresh air. Get immediate medical advice/attention.

**Eye contact** In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

Product Name: LC404BK, LC414BK, LC424BK

**Skin contact:** Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.

**Ingestion** Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.

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

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

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

**Note to physicians** Treat symptomatically.

**Section 5: Firefighting measures**

**5.1. Extinguishing media**

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

**Unsuitable extinguishing media** None

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

**Specific hazards arising from the chemical** Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon monoxide Carbon dioxide (CO<sub>2</sub>) Nitrogen oxides (NO<sub>x</sub>) 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 substance entering sewers. Washings must be prevented from entering surface water drains.

Product Name: LC404BK, LC414BK, LC424BK

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHK253-01

**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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>
Diethylene glycol 111-46-6	-	TWA: 23 ppm TWA: 101 mg/m <sup>3</sup> STEL: 69 ppm STEL: 303 mg/m <sup>3</sup>	-	-	TWA: 10 ppm TWA: 44 mg/m <sup>3</sup>
Carbon Black 1333-86-4	-	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 20 mg/m <sup>3</sup>	-

Product Name: LC404BK, LC414BK, LC424BK

Diethylene glycol 111-46-6	-	-	-	-	TWA: 2.5 ppm TWA: 11 mg/m <sup>3</sup>
Carbon Black 1333-86-4	-	TWA: 3 mg/m <sup>3</sup>	-	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup>
<b>Chemical name</b>	<b>Austria</b>	<b>Switzerland</b>	<b>Poland</b>	<b>Norway</b>	<b>Ireland</b>
Glycerol 56-81-5	-	TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	-
Diethylene glycol 111-46-6	TWA: 10 ppm TWA: 44 mg/m <sup>3</sup> STEL 40 ppm STEL 176 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 44 mg/m <sup>3</sup> STEL: 40 ppm STEL: 176 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	TWA: 23 ppm TWA: 100 mg/m <sup>3</sup> STEL: 69 ppm STEL: 300 mg/m <sup>3</sup>
Carbon Black 1333-86-4	-	-	TWA: 4 mg/m <sup>3</sup>	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>	TWA: 3 mg/m <sup>3</sup> STEL: 15 mg/m <sup>3</sup>

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

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

## 8.2. Exposure controls

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

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

**Eye/face protection** Safety goggles.

**Hand protection** Protective gloves.

**Skin and body protection** 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** black  
**Odor** Slight  
**Odor threshold** No information available

#### Property

**pH** 7 - 9  
**Melting point / freezing point** < -5 °C  
**Boiling point / boiling range** > 100 °C  
**Flash point** > 94 °C

#### Remarks • Method

Tag Closed Cup, Cleveland Open Cup,



Product Name: LC404BK, LC414BK, LC424BK

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHK253-01

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

None.

### **10.2. Chemical stability**

Stable under normal conditions.

### **10.3. Possibility of hazardous reactions**

None under normal processing.

### **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 (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Oxides of sulfur

Product Name: LC404BK, LC414BK, LC424BK

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHK253-01

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Product Information

<b>Inhalation</b>	No information available
<b>Eye contact</b>	No information available
<b>Skin contact:</b>	No information available
<b>Ingestion</b>	Acute LD <sub>50</sub> > 2000 mg/kg (OECD 420 method)
<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)
<b>Serious eye damage/eye irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	Respiratory sensitization : No information available It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	AMES test : Negative (OECD 471 method)
<b>Carcinogenicity</b>	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
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available
<b>Aspiration hazard</b>	No information available.
<b>Potential health effects</b>	Eye : May cause slight irritation Skin : Prolonged exposure may cause skin irritation Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Inhalation : Not an expected route of exposure

### 11.2. Information on other hazards

No information available

Product Name: LC404BK, LC414BK, LC424BK

Revision Date: -  
Issuing Date: 08-Jan-2021  
Revision Number: 1  
Safety data sheet number: BHK253-01

## 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> )	-	-
Diethylene glycol	-	LC50: =75200mg/L (96h, <i>Pimephales promelas</i> )	EC50 = 29228 mg/L 15 min	EC50: =84000mg/L (48h, <i>Daphnia magna</i> )
Carbon Black	-	-	-	-

### 12.2. Persistence and degradability

No information available.

### 12.3. Bioaccumulative potential

There is no data for this product.

#### Component Information

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

### 12.4. Mobility in soil

No information available.

### 12.5. Results of PBT and vPvB assessment

No information available.

### 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.

## Section 14: Transport information

#### IMDG

14.1 UN/ID no Not regulated

Product Name: LC404BK, LC414BK, LC424BK

14.2 Proper shipping name Not regulated  
14.3 Hazard Class Not regulated  
14.4 Packing group Not regulated  
14.5 Marine pollutant Not applicable  
14.6 Special Provisions None  
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

**RID**

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

**ADR**

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

**IATA**

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

**Section 15: Regulatory information**

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

**EU-Regulations**

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

**National Regulations**

No information available

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

Revision Date: -

Issuing Date: 08-Jan-2021

Revision Number: 1

Safety data sheet number: BHK253-01

Product Name: LC404BK, LC414BK, LC424BK

## 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 -

Issuing Date 08-Jan-2021

#### Revision Note

No information available

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

#### Disclaimer

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

Product Name: LC404C, LC414C, LC424C

Revision Date: -  
Issuing Date: 08-Jan-2021  
Revision Number: 1  
Safety data sheet number: BHC253-01

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

### 1.1. Product identifier

Product Name LC404C, LC414C, LC424C  
Product Form Mixture  
Safety data sheet number BHC253-01

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

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

**Uses advised against** No information available

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

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

**Importer** (Europe)  
Brother International Europe Ltd.  
1 Tame Street, Audenshaw, Manchester M34 5JE, UK  
Brother International (Nederland) B.V.  
Zanderij 25, 1185 ZM Amstelveen, The Netherlands  
Telephone (for information): +44-161-330-6531

### For further information, please contact

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

### 1.4. Emergency telephone number

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

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

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

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

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

### 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.

Product Name: LC404C, LC414C, LC424C

Revision Date: -  
Issuing Date: 08-Jan-2021  
Revision Number: 1  
Safety data sheet number: BHC253-01

**2.3. Other hazards**

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

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	CAS No	EC No	EC Index No	Weight-%	Specific concentration limit (SCL)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	65-75	-	Not classified	Not applicable
Glycerol	56-81-5	200-289-5	-	10-20	-	Not classified	Not applicable
Triethylene glycol, monobutyl ether	143-22-6	205-592-6	603-183-00-0	1-5	Eye Dam. 1 :: C>=30% Eye Irrit. 2 :: 20%<=C<30%	Eye Dam. 1 (H318)	01-2119475107-38-XXXX
Diethylene glycol	111-46-6	203-872-2	603-140-00-6	5-9	-	Acute Tox. 4 (H302)	01-2119457857-21-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

\*\* CONFIDENTIAL

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** Remove to fresh air. Get immediate medical advice/attention.

Product Name: LC404C, LC414C, LC424C

<b>Eye contact</b>	In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical advice/attention.
<b>Skin contact:</b>	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.

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

<b>Symptoms</b>	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**

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

**Section 5: Firefighting measures**

**5.1. Extinguishing media**

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

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

<b>Specific hazards arising from the chemical</b>	Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon monoxide Carbon dioxide (CO <sub>2</sub> ) Nitrogen oxides (NO <sub>x</sub> ) Oxides of sulfur
---	--

**5.3. Advice for firefighters**

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

**Section 6: Accidental release measures**

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

<b>For non-emergency personnel</b>	Avoid contact with skin, eyes or clothing
<b>For emergency responders</b>	Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

<b>Environmental precautions</b>	Prevent substance entering sewers. Washings must be prevented from entering surface water drains.
----------------------------------	---



Product Name: LC404C, LC414C, LC424C

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHC253-01

**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 <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>
Diethylene glycol 111-46-6	-	TWA: 23 ppm TWA: 101 mg/m <sup>3</sup> STEL: 69 ppm STEL: 303 mg/m <sup>3</sup>	-	-	TWA: 10 ppm TWA: 44 mg/m <sup>3</sup>
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 20 mg/m <sup>3</sup>	-
Diethylene glycol 111-46-6	-	-	-	-	TWA: 2.5 ppm TWA: 11 mg/m <sup>3</sup>

Product Name: LC404C, LC414C, LC424C

Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	-
Diethylene glycol 111-46-6	TWA: 10 ppm TWA: 44 mg/m <sup>3</sup> STEL 40 ppm STEL 176 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 44 mg/m <sup>3</sup> STEL: 40 ppm STEL: 176 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	TWA: 23 ppm TWA: 100 mg/m <sup>3</sup> STEL: 69 ppm STEL: 300 mg/m <sup>3</sup>

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

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

### 8.2. Exposure controls

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

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

**Eye/face protection** Safety goggles.

**Hand protection** Protective gloves.

**Skin and body protection** 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

<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
Vapor pressure	No data available

#### Remarks • Method

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

Product Name: LC404C, LC414C, LC424C

<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	1.0 - 1.1	(H <sub>2</sub> O=1)
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	> 400 °C	
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	2 - 5 mPa s	
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	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

None.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None under normal processing.

### 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 (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Oxides of sulfur

## **Section 11: Toxicological information**

### 11.1. Information on toxicological effects

Product Name: LC404C, LC414C, LC424C

**Product Information**

<b>Inhalation</b>	No information available
<b>Eye contact</b>	No information available
<b>Skin contact:</b>	No information available
<b>Ingestion</b>	Acute LD <sub>50</sub> > 2000 mg/kg (OECD 420 method)
<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)
<b>Serious eye damage/eye irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	Respiratory sensitization : No information available It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	AMES test : Negative (OECD 471 method)
<b>Carcinogenicity</b>	Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available
<b>Aspiration hazard</b>	No information available.
<b>Potential health effects</b>	Eye : May cause slight irritation Skin : Prolonged exposure may cause skin irritation Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea Inhalation : Not an expected route of exposure

**11.2. Information on other hazards**

No information available

**Section 12: Ecological information**

**12.1. Toxicity**

**Ecotoxicity**

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

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

Product Name: LC404C, LC414C, LC424C

**Revision Date:** -  
**Issuing Date:** 08-Jan-2021  
**Revision Number:** 1  
**Safety data sheet number:** BHC253-01

Diethylene glycol	-	LC50: =75200mg/L (96h, Pimephales promelas)	EC50 = 29228 mg/L 15 min	EC50: =84000mg/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
Diethylene glycol	-1.98
1,2-Benzisothiazolin-3-one	1.3

**12.4. Mobility in soil**

No information available.

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

No information available.

**12.6. 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.

**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

Product Name: LC404C, LC414C, LC424C

Revision Date: -  
Issuing Date: 08-Jan-2021  
Revision Number: 1  
Safety data sheet number: BHC253-01

14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

**ADR**

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

**IATA**

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

**Section 15: Regulatory information**

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

**EU-Regulations**

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

**National Regulations**

No information available

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

**Section 16: Other information**

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

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

- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage
- H400 - Very toxic to aquatic life

**Revision Date:** -

**Issuing Date:** 08-Jan-2021

**Revision Number:** 1

**Safety data sheet number:** BHC253-01

**Product Name:** LC404C, LC414C, LC424C

---

**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** -

**Issuing Date** 08-Jan-2021

**Revision Note**

No information available

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

**Disclaimer**

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