

Product name: LC3011BK, LC3013BK, LC3033BK, LC3035BK,  
LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

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

### 1.1. Product identifier

Product Name (Product code) : LC3011BK, LC3013BK, LC3033BK, LC3035BK, LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK, LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK, LC3511BK, LC3513BK

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (USA) : Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-877-276-8437

Importer (Canada) : Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

Importer (Australia) : Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

E-mail Address : sds.info@brother.co.jp

### 1.4. Emergency telephone number

Emergency number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

#### Classification according to OSHA GHS

Not classified

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

Product name: LC3011BK, LC3013BK, LC3033BK, LC3035BK,  
LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms : None.  
Signal Word : None.  
Hazard Statements : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.  
Precautionary statements : None.

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

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

**3.2. Mixture**

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
glycerol	(CAS No) 56-81-5 (EC no) 200-289-5	5-15	Not classified
Carbon Black	(CAS No) 1333-86-4 (EC no) 215-609-9	1-10	Not classified
Diethylene glycol	(CAS No) 111-46-6 (EC no) 203-872-2 (EC index no) 603-140-00-6	1-9	Acute Tox. 4 (Oral), H302
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	60-70	Not classified
1,2-benzisothiazol-3(2H)-one	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6	< 0.05	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400

\*Registered

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If symptoms persist, obtain medical attention.  
First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.  
First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.  
First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.  
First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.  
Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.  
Symptoms/injuries after eye contact : May cause eye irritation.  
Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC3011BK, LC3013BK, LC3033BK, LC3035BK,  
LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
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Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.  
Unsuitable extinguishing media : None.

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

Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.  
Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters.  
Combustion products: See Section: 10.

### 5.3. Advice for firefighters

Firefighting instructions : Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

Emergency procedures : Ensure adequate ventilation. Avoid contact with eyes.

### 6.2. Environmental precautions

Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

### 6.3. Methods and material for containment and cleaning up

For containment : Wipe up ink with absorbent towel.  
Methods for cleaning up : Wash with water to remove remaining traces of ink.

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from oxidizing agents.

### 7.3. Specific end use(s)

Cartridge containing water based ink for inkjet printing machine.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

glycerol (56-81-5)		
Belgium	Local name	Glycérine (brouillard)
Belgium	Limit value (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Local name	Glycerol, mlha
Czech Republic	Exposure limits (PEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Exposure limits (PEL) (ppm)	2.4 ppm
Czech Republic	Exposure limits (NPK-P) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Czech Republic	Exposure limits (NPK-P) (ppm)	3.7 ppm
Finland	Local name	Glyseroli
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>

Product name: LC3011BK, LC3013BK, LC3033BK, LC3035BK,  
LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

<b>glycerol (56-81-5)</b>		
France	Local name	Glycérine (aérosols de)
France	VME (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Ireland	Local name	Glycerol, mist
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Poland	Local name	Glicerol aerozole
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Portugal	Local name	Glicerina, névoas
Portugal	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
United Kingdom	Local name	Glycerol, mist
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
USA - ACGIH	Local name	Glycerin mist
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> Total dust 5 mg/m <sup>3</sup> Respirable Fraction

<b>Carbon Black (1333-86-4)</b>		
Belgium	Local name	Carbone (noir de)
Belgium	Limit value (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Denmark	Local name	Carbon black
Denmark	Limit (long-term) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Denmark	Anmærkninger (DK)	K
Finland	Local name	Nokimusta
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min)	7 mg/m <sup>3</sup>
France	Local name	Noir de carbone
France	VME (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Ireland	Local name	Carbon black
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Portugal	Local name	Carbono, preto (Negro de fumo)
Portugal	OEL TWA (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Spain	Local name	Negro de humo
Spain	VLA-ED (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Spain	Notes	véase Apartado 9
United Kingdom	Local name	Carbon black
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Norway	Local name	Carbon Black (lampesot)
Norway	TWA (AN) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
USA - ACGIH	Local name	Carbon black
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
USA - ACGIH	Remark (ACGIH)	Bronchitis
USA - OSHA	Local name	Carbon black
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>

<b>Diethylene glycol (111-46-6)</b>		
Austria	Local name	Diethylenglykol
Austria	MAK (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>

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LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

<b>Diethylene glycol (111-46-6)</b>		
Austria	MAK Short time value (ppm)	40 ppm
Denmark	Local name	Diethylenglycol
Denmark	Limit (long-term) (mg/m <sup>3</sup> )	11 mg/m <sup>3</sup>
Denmark	Limit (long-term) (ppm)	2.5 ppm
Germany	Local name	2,2'-Oxydiethanol
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	Remark (TRGS 900)	DFG, Y
Ireland	Local name	Diethylene glycol
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	23 ppm
Latvia	Local name	Dietilēnglikols (2,2'oksibisetanols,2,2'dihidroksidietilēteris)
Latvia	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Lithuania	Local name	2,2-oksidietaanolis (dietilengl kolis, diglikolis)
Lithuania	IPRV (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Lithuania	Remark (LT)	O
Poland	Local name	2,2'-Oksydietanol (glikol dwuetylenowy) aerozol
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Romania	Local name	Dietilenglicol
Romania	OEL TWA (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	115 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	800 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	184 ppm
Spain	Local name	Dietilenglicol
Spain	VLA-ED (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	10 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	40 ppm
Sweden	Local name	Diethylene glycol
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
United Kingdom	Local name	2,2'-Oxydiethanol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	101 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	23 ppm

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LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

**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:
Hand protection	: protective gloves.
Eye protection	: Safety goggles.
Skin and body protection	: Long sleeved clothing and long pants.
Respiratory protection	: In case of large spillages: Wear suitable respiratory protective equipment.
Environmental exposure controls	: Avoid release to the environment.

**SECTION 9: Physical and chemical properties**

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

Physical state	: Liquid
Appearance	: Black
Color	: Black
Odor	: Slight odor
Odor threshold	: No information available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No information available
Relative evaporation rate (ether=1)	: Not available
Melting point	: < 5 °C
Freezing point	: No data available
Boiling point	: > 100 °C
Flash point	: Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup)
Auto-ignition temperature	: > 400 °C
Decomposition temperature	: Not available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: Not available
Relative vapor density at 20 °C	: Not available
Relative density	: No data available
Specific gravity / density	: 1 - 1.1 g/ml
Solubility	: Soluble in water
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 2 - 5 mPa·s
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not available
Explosion limits	: Not available

**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

No information available.

**10.4. Conditions to avoid**

No information available.

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LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

**10.5. Incompatible materials**

Strong oxidizing agents.

**10.6. Hazardous decomposition products**

Carbon monoxide. Carbon dioxide.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity	: Not classified
LD <sub>50</sub> oral rat	> 2000 mg/kg (OECD 420 method)
Skin corrosion/irritation	: Non-irritant. (OECD 404 method) pH: 7 - 9
Serious eye damage/irritation	: Minimal irritant to the eye. (OECD 405 method) pH: 7 - 9
Respiratory or skin sensitization	: It is not a skin sensitizer. (OECD 429 method)
Germ cell mutagenicity	: 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	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

**SECTION 12: Ecological information**

**12.1. Toxicity**

<b>glycerol (56-81-5)</b>	
LC <sub>50</sub> fish	51 - 57 ml/l 96 h - Oncorhynchus mykiss
EC <sub>50</sub> Daphnia	> 500 mg/l 24 h - Daphnia magna
<b>Carbon Black (1333-86-4)</b>	
EC <sub>50</sub> Daphnia	> 5600 mg/l 24 h (Daphnia magna)
<b>Diethylene glycol (111-46-6)</b>	
LC <sub>50</sub> fish	75200 mg/kg 96 - Pimephales promelas
EC <sub>50</sub> Daphnia	84000 mg/l 48 h - Daphnia magna

**12.2. Persistence and degradability**

Persistence and degradability No information available.

**12.3. Bioaccumulative potential**

<b>glycerol (56-81-5)</b>	
Log Pow	-1.76
<b>Diethylene glycol (111-46-6)</b>	
Log Pow	-1.98

**12.4. Mobility in soil**

Ecology - soil No information available.

Product name: LC3011BK, LC3013BK, LC3033BK, LC3035BK,  
LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

## 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment : Not available

## 12.6. Other adverse effects

Other adverse effects : No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None  
Proper Shipping Name (IATA) : None  
Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions  
Contains no REACH candidate substance



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LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

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Revision date: 24 October 2017  
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SDS No: BHK151-01-EUUSOTHER

**15.1.2. National regulations**

Regional legislation

: EU: Not classified as dangerous for supply/use. (1999/45/EC)

USA: All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.

Canada: WHMIS: Not applicable. (Manufactured article).

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**SECTION 16: Other information**

Indication of changes:  
SECTION 1.

Data sources

: U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens.

Abbreviations and acronyms

: IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of Chemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department Of Transportation (US))  
ICAO (International Civil Aviation Organization)  
NOHSC (National Occupational Health and Safety Commission (Australia))  
NTP (National Toxicology Program) (US)  
OSHA (Occupational Safety and Health Administration) (US)  
PEL (Permissible Exposure Limit)  
STEL (Short Term Exposure Limit)  
TLV (Threshold Limit Value) (ACGIH)  
TSCA (Toxic Substances Control Act) (US)  
TWA (Time Weighted Average).

Other information

: The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
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
R22	Harmful if swallowed
R41	Risk of serious damage to eyes
R38	Irritating to skin

Product name: LC3011BK, LC3013BK, LC3033BK, LC3035BK,  
LC3111BK, LC3133BK, LC3135BK, LC3211BK, LC3213BK,  
LC3233BK, LC3235XLBK, LC3311BK, LC3333BK, LC3335XLBK,  
LC3511BK, LC3513BK Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHK151-01-EUUSOTHER

R43	May cause sensitization by skin contact
R50	Very toxic to aquatic organisms
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

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

### 1.1. Product identifier

Product Name (Product code) : LC3011C, LC3013C, LC3033C, LC3035C, LC3111C, LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC, LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (USA) : Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-877-276-8437

Importer (Canada) : Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

Importer (Australia) : Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

E-mail Address : sds.info@brother.co.jp

### 1.4. Emergency telephone number

Emergency number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

**Classification according to OSHA GHS**

Not classified

**Australia Classification**

Not classified as hazardous according to the criteria of NOHSC

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C, LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC, LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms : None.  
Signal Word : None.  
Hazard Statements : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.  
Precautionary statements : None.

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

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

**3.2. Mixture**

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
glycerol	(CAS No) 56-81-5 (EC no) 200-289-5	20 - 50	Not classified
Diethylene glycol	(CAS No) 111-46-6 (EC no) 203-872-2 (EC index no) 603-140-00-6	3 - 10	Acute Tox. 4 (Oral), H302
Cyan Dye	(CAS No) * (EC no) *	3 - 10	Not classified
Triethylene glycol monobutyl ether	(CAS No) 143-22-6 (EC no) 205-592-6 (EC index no) 603-183-00-0	3 - 10	Eye Dam. 1, H318
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	65 - 75	Not classified
1,2-benzisothiazol-3(2H)-one	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6	< 0.05	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400

\*Registered

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If symptoms persist, obtain medical attention.  
First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.  
First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.  
First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.  
First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.  
Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.  
Symptoms/injuries after eye contact : May cause eye irritation.  
Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Extinguish preferably with dry chemical, carbon dioxide, water, foam.  
Unsuitable extinguishing media : None.

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

Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.  
Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters.  
Combustion products: See Section: 10.

### 5.3. Advice for firefighters

Firefighting instructions : Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

Emergency procedures : Ensure adequate ventilation. Avoid contact with eyes.

### 6.2. Environmental precautions

Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

### 6.3. Methods and material for containment and cleaning up

For containment : Wipe up ink with absorbent towel.  
Methods for cleaning up : Wash with water to remove remaining traces of ink.

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from oxidizing agents.

### 7.3. Specific end use(s)

Cartridge containing water based ink for inkjet printing machine.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

glycerol (56-81-5)		
Belgium	Local name	Glycérine (brouillard)
Belgium	Limit value (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Local name	Glycerol, mlha
Czech Republic	Exposure limits (PEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Exposure limits (PEL) (ppm)	2.4 ppm
Czech Republic	Exposure limits (NPK-P) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Czech Republic	Exposure limits (NPK-P) (ppm)	3.7 ppm
Finland	Local name	Glyseroli
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

<b>glycerol (56-81-5)</b>		
France	Local name	Glycérine (aérosols de)
France	VME (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Ireland	Local name	Glycerol, mist
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Poland	Local name	Glicerol aerozole
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Portugal	Local name	Glicerina, névoas
Portugal	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
United Kingdom	Local name	Glycerol, mist
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
USA - ACGIH	Local name	Glycerin mist
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> Total dust 5 mg/m <sup>3</sup> Respirable Fraction

<b>Diethylene glycol (111-46-6)</b>		
Austria	Local name	Diethylenglykol
Austria	MAK (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	40 ppm
Denmark	Local name	Diethylenglykol
Denmark	Limit (long-term) (mg/m <sup>3</sup> )	11 mg/m <sup>3</sup>
Denmark	Limit (long-term) (ppm)	2.5 ppm
Germany	Local name	2,2'-Oxydiethanol
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	Remark (TRGS 900)	DFG, Y
Ireland	Local name	Diethylene glycol
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	23 ppm
Latvia	Local name	Dietilēnglikols (2,2'oksibisetanols,2,2'dihidroksidietilēteris)
Latvia	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Lithuania	Local name	2,2-oksidietanolis (dietilengl kolis, diglikolis)
Lithuania	IPRV (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Lithuania	Remark (LT)	O
Poland	Local name	2,2'-Oksydietanol (glikol dwuetylenowy) aerozol
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Romania	Local name	Dietilenglicol
Romania	OEL TWA (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	115 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	800 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	184 ppm
Spain	Local name	Dietilenglicol
Spain	VLA-ED (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

Diethylene glycol (111-46-6)		
Spain	VLA-ED (ppm)	10 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	40 ppm
Sweden	Local name	Diethylene glycol
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
United Kingdom	Local name	2,2'-Oxydiethanol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	101 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	23 ppm

## 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:
Hand protection	: protective gloves.
Eye protection	: Safety goggles.
Skin and body protection	: Long sleeved clothing and long pants.
Respiratory protection	: In case of large spillages: Wear suitable respiratory protective equipment.
Environmental exposure controls	: Avoid release to the environment.

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Dark blue
Color	: Dark blue
Odor	: Slight odor
Odor threshold	: No information available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No information available
Relative evaporation rate (ether=1)	: Not available
Melting point	: < 5 °C
Freezing point	: No data available
Boiling point	: > 100 °C
Flash point	: Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup)
Auto-ignition temperature	: > 400 °C
Decomposition temperature	: Not available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: Not available
Relative vapor density at 20 °C	: Not available
Relative density	: No data available
Specific gravity / density	: 1 - 1.1 g/ml
Solubility	: Soluble in water
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 2 - 5 mPa·s
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not available
Explosion limits	: Not available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No information available.

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

No information available.

### 10.4. Conditions to avoid

No information available.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.



Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
LD <sub>50</sub> oral rat	> 2000 mg/kg (OECD 420 method)
Skin corrosion/irritation	: Non-irritant. (OECD 404 method) pH: 7 - 9
Serious eye damage/irritation	: Minimal irritant to the eye. (OECD 405 method) pH: 7 - 9
Respiratory or skin sensitization	: It is not a skin sensitizer. (OECD 429 method)
Germ cell mutagenicity	: Negative. (OECD 471 method)
Carcinogenicity	: Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

glycerol (56-81-5)	
LC <sub>50</sub> fish	51 - 57 ml/l 96 h - Oncorhynchus mykiss
EC <sub>50</sub> Daphnia	> 500 mg/l 24 h - Daphnia magna
Diethylene glycol (111-46-6)	
LC <sub>50</sub> fish	75200 mg/kg 96 - Pimephales promelas
EC <sub>50</sub> Daphnia	84000 mg/l 48 h - Daphnia magna
Triethylene glycol monobutyl ether (143-22-6)	
LC <sub>50</sub> fish	2200 - 4600 mg/kg 96 h - Leuciscus idus
LC <sub>50</sub> other aquatic organisms	2400 mg/kg 96 h - Pimephales promelas
EC <sub>50</sub> Daphnia	> 500 mg/l 48 h - Daphnia magna
EC <sub>50</sub> other aquatic organisms 1	> 500 mg/l 72 h - Desmodemus subspicatus

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

glycerol (56-81-5)	
Log Pow	-1.76
Diethylene glycol (111-46-6)	
Log Pow	-1.98
Triethylene glycol monobutyl ether (143-22-6)	
Log Pow	0.51

### 12.4. Mobility in soil

Ecology - soil No information available.

### 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment Not available

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

## 12.6. Other adverse effects

Other adverse effects : No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None

Proper Shipping Name (IATA) : None

Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

#### 15.1.2. National regulations

Regional legislation : EU: Not classified as dangerous for supply/use. (1999/45/EC)

USA: All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.

Canada: WHMIS: Not applicable. (Manufactured article).

Product name: LC3011C, LC3013C, LC3033C, LC3035C, LC3111C,  
LC3133C, LC3135C, LC3211C, LC3213C, LC3233C, LC3235XLC,  
LC3311C, LC3333C, LC3335XLC, LC3511C, LC3513C Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHC151-01-EUUSOTHER

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**SECTION 16: Other information**

Indication of changes:  
SECTION 1.

- Data sources : U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens.
- Abbreviations and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of Chemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department of Transportation (US))  
ICAO (International Civil Aviation Organization)  
NOHSC (National Occupational Health and Safety Commission (Australia))  
NTP (National Toxicology Program) (US)  
OSHA (Occupational Safety and Health Administration) (US)  
PEL (Permissible Exposure Limit)  
STEL (Short Term Exposure Limit)  
TLV (Threshold Limit Value) (ACGIH)  
TSCA (Toxic Substances Control Act) (US)  
TWA (Time Weighted Average).
- Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
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
R22	Harmful if swallowed
R41	Risk of serious damage to eyes
R38	Irritating to skin
R43	May cause sensitization by skin contact
R50	Very toxic to aquatic organisms
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M,  
LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM,  
LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

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

### 1.1. Product identifier

Product Name (Product code) : LC3011M, LC3013M, LC3033M, LC3035M, LC3111M, LC3133M, LC3135M, LC3211M,  
LC3213M, LC3233M, LC3235XLM, LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (USA) : Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-877-276-8437

Importer (Canada) : Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

Importer (Australia) : Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

E-mail Address : sds.info@brother.co.jp

### 1.4. Emergency telephone number

Emergency number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

**Classification according to OSHA GHS**

Not classified

**Australia Classification**

Not classified as hazardous according to the criteria of NOHSC

Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M, LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM, LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms : None.  
Signal Word : None.  
Hazard Statements : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.  
Precautionary statements : None.

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

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

**3.2. Mixture**

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
glycerol	(CAS No) 56-81-5 (EC no) 200-289-5	10-20	Not classified
Magenta Dye	(CAS No) * (EC no) *	< 2.5	Aquatic Chronic 2, H411
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	65-80	Not classified
1,2-benzisothiazol-3(2H)-one	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6	< 0.05	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400

\*Registered

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If symptoms persist, obtain medical attention.  
First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.  
First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.  
First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.  
First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.  
Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.  
Symptoms/injuries after eye contact : May cause eye irritation.  
Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

Suitable extinguishing media : Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.  
Unsuitable extinguishing media : None.

Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M, LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM, LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

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

Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.  
Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters.  
Combustion products: See Section: 10.

**5.3. Advice for firefighters**

Firefighting instructions : Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

**SECTION 6: Accidental release measures**

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

**6.1.1. For non-emergency personnel**

Emergency procedures : Ensure adequate ventilation. Avoid contact with eyes.

**6.1.2. For emergency responders**

Emergency procedures : Ensure adequate ventilation. Avoid contact with eyes.

**6.2. Environmental precautions**

Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

**6.3. Methods and material for containment and cleaning up**

For containment : Wipe up ink with absorbent towel.  
Methods for cleaning up : Wash with water to remove remaining traces of ink.

**6.4. Reference to other sections**

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions : Keep away from oxidizing agents.

**7.3. Specific end use(s)**

Cartridge containing water based ink for inkjet printing machine.

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

glycerol (56-81-5)		
Belgium	Local name	Glycérine (brouillard)
Belgium	Limit value (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Local name	Glycerol, mlha
Czech Republic	Exposure limits (PEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Exposure limits (PEL) (ppm)	2.4 ppm
Czech Republic	Exposure limits (NPK-P) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Czech Republic	Exposure limits (NPK-P) (ppm)	3.7 ppm
Finland	Local name	Glyseroli
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
France	Local name	Glycérine (aérosols de)
France	VME (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Ireland	Local name	Glycerol, mist
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>

Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M, LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM, LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

<b>glycerol (56-81-5)</b>		
Poland	Local name	Glicerol aerozole
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Portugal	Local name	Glicerina, névoas
Portugal	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
United Kingdom	Local name	Glycerol, mist
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
USA - ACGIH	Local name	Glycerin mist
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> Total dust 5 mg/m <sup>3</sup> Respirable Fraction

## 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:
Hand protection	: protective gloves.
Eye protection	: Safety goggles.
Skin and body protection	: Long sleeved clothing and long pants.
Respiratory protection	: In case of large spillages: Wear suitable respiratory protective equipment.
Environmental exposure controls	: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Dark red
Color	: Dark red
Odor	: Slight odor
Odor threshold	: No information available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No information available
Relative evaporation rate (ether=1)	: Not available
Melting point	: < 5 °C
Freezing point	: No data available
Boiling point	: > 100 °C
Flash point	: Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup)
Auto-ignition temperature	: > 400 °C
Decomposition temperature	: Not available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: Not available
Relative vapor density at 20 °C	: Not available
Relative density	: No data available
Specific gravity / density	: 1 - 1.1 g/ml
Solubility	: Soluble in water
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 2 - 5 mPa·s
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not available
Explosion limits	: Not available

Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M, LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM, LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

No information available.

**10.4. Conditions to avoid**

No information available.

**10.5. Incompatible materials**

Strong oxidizing agents.

**10.6. Hazardous decomposition products**

Carbon monoxide. Carbon dioxide.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity	: Not classified
LD <sub>50</sub> oral rat	> 2000 mg/kg (OECD 420 method)
Skin corrosion/irritation	: Non-irritant. (OECD 404 method) pH: 7 - 9
Serious eye damage/irritation	: Minimal irritant to the eye. (OECD 405 method) pH: 7 - 9
Respiratory or skin sensitization	: It is not a skin sensitizer. (OECD 429 method)
Germ cell mutagenicity	: Negative. (OECD 471 method)
Carcinogenicity	: Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

**SECTION 12: Ecological information**

**12.1. Toxicity**

glycerol (56-81-5)	
LC <sub>50</sub> fish	51 - 57 ml/l 96 h - Oncorhynchus mykiss
EC <sub>50</sub> Daphnia	> 500 mg/l 24 h - Daphnia magna

**12.2. Persistence and degradability**

Persistence and degradability No information available.

**12.3. Bioaccumulative potential**

glycerol (56-81-5)	
Log Pow	-1.76

**12.4. Mobility in soil**

Ecology - soil No information available.



Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M,  
LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM,  
LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

## 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment : Not available

## 12.6. Other adverse effects

Other adverse effects : No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None

Proper Shipping Name (IATA) : None

Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M, LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM, LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

**15.1.2. National regulations**

Regional legislation : EU: Not classified as dangerous for supply/use. (1999/45/EC)

USA: All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.

Canada: WHMIS: Not applicable. (Manufactured article).

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**SECTION 16: Other information**

Indication of changes:  
SECTION 1.

Data sources : U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens.

Abbreviations and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of Chemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department Of Transportation (US))  
ICAO (International Civil Aviation Organization)  
NOHSC (National Occupational Health and Safety Commission (Australia))  
NTP (National Toxicology Program) (US)  
OSHA (Occupational Safety and Health Administration) (US)  
PEL (Permissible Exposure Limit)  
TLV (Threshold Limit Value) (ACGIH)  
TSCA (Toxic Substances Control Act) (US)  
TWA (Time Weighted Average).

Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
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
H411	Toxic to aquatic life with long lasting effects
R22	Harmful if swallowed
R41	Risk of serious damage to eyes

Product name: LC3011M, LC3013M, LC3033M, LC3035M, LC3111M,  
LC3133M, LC3135M, LC3211M, LC3213M, LC3233M, LC3235XLM,  
LC3311M, LC3333M, LC3335XLM, LC3511M, LC3513M Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHM151-01-EUUSOTHER

R38	Irritating to skin
R43	May cause sensitization by skin contact
R50	Very toxic to aquatic organisms
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

Product name: LC3011Y, LC3013Y, LC3033Y, LC3035Y, LC3111Y,  
LC3133Y, LC3135Y, LC3211Y, LC3213Y, LC3233Y, LC3235XLY,  
LC3311Y, LC3333Y, LC3335XLY, LC3511Y, LC3513Y Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

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

### 1.1. Product identifier

Product Name (Product code) : LC3011Y, LC3013Y, LC3033Y, LC3035Y, LC3111Y, LC3133Y, LC3135Y, LC3211Y, LC3213Y, LC3233Y, LC3235XLY, LC3311Y, LC3333Y, LC3335XLY, LC3511Y, LC3513Y

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : 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

#### 1.2.2. Uses advised against

No additional 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 (USA) : Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-877-276-8437

Importer (Canada) : Brother International Corporation (Canada) Ltd.  
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada  
Telephone (for information): +1-514-685-0600

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

Importer (Australia) : Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

E-mail Address : sds.info@brother.co.jp

### 1.4. Emergency telephone number

Emergency number : CHEMTREC  
+1-703-527-3887 (International)  
+1-800-424-9300 (North America)  
+61-290372994 (Australia)

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

#### Classification according to OSHA GHS

Not classified

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

Product name: LC3011Y, LC3013Y, LC3033Y, LC3035Y, LC3111Y, LC3133Y, LC3135Y, LC3211Y, LC3213Y, LC3233Y, LC3235XLY, LC3311Y, LC3333Y, LC3335XLY, LC3511Y, LC3513Y Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

**2.2. Label elements**

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms : None.  
Signal Word : None.  
Hazard Statements : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.  
Precautionary statements : None.

**2.3. Other hazards**

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

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

**3.2. Mixture**

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
glycerol	(CAS No) 56-81-5 (EC no) 200-289-5	5-15	Not classified
Triethylene glycol monobutyl ether	(CAS No) 143-22-6 (EC no) 205-592-6 (EC index no) 603-183-00-0	1-5	Eye Dam. 1, H318
Yellow Dye	(CAS No) * (EC no) *	≤5	Not classified
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	65-80	Not classified
1,2-benzisothiazol-3(2H)-one	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6	< 0.05	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400

\*Registered

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

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

First-aid measures general : If symptoms persist, obtain medical attention.  
First-aid measures after inhalation : Obtain medical attention. In case of accident by inhalation : remove casualty to fresh air and keep at rest.  
First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.  
First-aid measures after eye contact : Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.  
First-aid measures after 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/injuries after inhalation : Unlikely route of exposure.  
Symptoms/injuries after skin contact : Repeated and/or prolonged skin contact may cause irritation.  
Symptoms/injuries after eye contact : May cause eye irritation.  
Symptoms/injuries after ingestion : Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.

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

Treat symptomatically.

Product name: LC3011Y, LC3013Y, LC3033Y, LC3035Y, LC3111Y, LC3133Y, LC3135Y, LC3211Y, LC3213Y, LC3233Y, LC3235XLY, LC3311Y, LC3333Y, LC3335XLY, LC3511Y, LC3513Y Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.  
Unsuitable extinguishing media : None.

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

Fire hazard : Thermal decomposition of organic components may result in occurrence of oxides of carbon.  
Hazardous decomposition products in case of fire : Toxic gases may be formed upon combustion and represents a hazard to firefighters.  
Combustion products: See Section: 10.

### 5.3. Advice for firefighters

Firefighting instructions : Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

No additional information available

#### 6.1.2. For emergency responders

Emergency procedures : Ensure adequate ventilation. Avoid contact with eyes.

### 6.2. Environmental precautions

Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

### 6.3. Methods and material for containment and cleaning up

For containment : Wipe up ink with absorbent towel.  
Methods for cleaning up : Wash with water to remove remaining traces of ink.

### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep out of the reach of children. Avoid contact with skin, eyes and clothing.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep away from oxidizing agents.

### 7.3. Specific end use(s)

Cartridge containing water based ink for inkjet printing machine.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

glycerol (56-81-5)		
Belgium	Local name	Glycérine (brouillard)
Belgium	Limit value (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Local name	Glycerol, mlha
Czech Republic	Exposure limits (PEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Exposure limits (PEL) (ppm)	2.4 ppm
Czech Republic	Exposure limits (NPK-P) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Czech Republic	Exposure limits (NPK-P) (ppm)	3.7 ppm
Finland	Local name	Glyceroli
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>

Product name: LC3011Y, LC3013Y, LC3033Y, LC3035Y, LC3111Y, LC3133Y, LC3135Y, LC3211Y, LC3213Y, LC3233Y, LC3235XLY, LC3311Y, LC3333Y, LC3335XLY, LC3511Y, LC3513Y Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

<b>glycerol (56-81-5)</b>		
France	Local name	Glycérine (aérosols de)
France	VME (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Ireland	Local name	Glycerol, mist
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Poland	Local name	Glicerol aerozole
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Portugal	Local name	Glicerina, névoas
Portugal	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
United Kingdom	Local name	Glycerol, mist
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
USA - ACGIH	Local name	Glycerin mist
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist
USA - ACGIH	Remark (ACGIH)	URT irr
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> Total dust 5 mg/m <sup>3</sup> Respirable Fraction

## 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:
Hand protection	: protective gloves.
Eye protection	: Safety goggles.
Skin and body protection	: Long sleeved clothing and long pants.
Respiratory protection	: In case of large spillages: Wear suitable respiratory protective equipment.
Environmental exposure controls	: Avoid release to the environment.

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Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Dark yellow
Color	: Dark yellow
Odor	: Slight odor
Odor threshold	: No information available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No information available
Relative evaporation rate (ether=1)	: Not available
Melting point	: < 5 °C
Freezing point	: No data available
Boiling point	: > 100 °C
Flash point	: Does not flash at 93.3°C or lower (Tag closed cup & Cleveland opened cup)
Auto-ignition temperature	: > 400 °C
Decomposition temperature	: Not available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: Not available
Relative vapor density at 20 °C	: Not available
Relative density	: No data available
Specific gravity / density	: 1 - 1.1 g/ml
Solubility	: Soluble in water
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 2 - 5 mPa·s
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Not available
Explosion limits	: Not available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No information available.

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

No information available.

### 10.4. Conditions to avoid

No information available.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.



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Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
LD <sub>50</sub> oral rat	> 2000 mg/kg (OECD 420 method)
Skin corrosion/irritation	: Non-irritant. (OECD 404 method) pH: 7 - 9
Serious eye damage/irritation	: Minimal irritant to the eye. (OECD 405 method) pH: 7 - 9
Respiratory or skin sensitization	: It is not a skin sensitizer. (OECD 429 method)
Germ cell mutagenicity	: Negative. (OECD 471 method)
Carcinogenicity	: Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

## SECTION 12: Ecological information

### 12.1. Toxicity

glycerol (56-81-5)	
LC <sub>50</sub> fish	51 - 57 ml/l 96 h - Oncorhynchus mykiss
EC <sub>50</sub> Daphnia	> 500 mg/l 24 h - Daphnia magna
Triethylene glycol monobutyl ether (143-22-6)	
LC <sub>50</sub> fish	2200 - 4600 mg/kg 96 h - Leuciscus idus
LC <sub>50</sub> other aquatic organisms	2400 mg/kg 96 h - Pimephales promelas
EC <sub>50</sub> Daphnia	> 500 mg/l 48 h - Daphnia magna
EC <sub>50</sub> other aquatic organisms 1	> 500 mg/l 72 h - Desmodesmus subspicatus

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

glycerol (56-81-5)	
Log Pow	-1.76
Triethylene glycol monobutyl ether (143-22-6)	
Log Pow	0.51

### 12.4. Mobility in soil

Ecology - soil No information available.

### 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment Not available

### 12.6. Other adverse effects

Other adverse effects : No information available.

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LC3311Y, LC3333Y, LC3335XLY, LC3511Y, LC3513Y Ink

Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / DOT / UN

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (ADR/RID) : None

Proper Shipping Name (IATA) : None

Proper Shipping Name (IMDG) : None

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Other information : None

### 14.6. Special precautions for user

Special transport precautions : None

#### 14.6.1. Overland transport

No additional information available

#### 14.6.2. Transport by sea

No additional information available

#### 14.6.3. Air transport

No additional information available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

#### 15.1.2. National regulations

Regional legislation : EU: Not classified as dangerous for supply/use. (1999/45/EC)

USA: All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.

Canada: WHMIS: Not applicable. (Manufactured article).

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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Date of issue: 30 September 2017  
Revision date: 24 October 2017  
Version: 4.1  
SDS No: BHY151-01-EUUSOTHER

**SECTION 16: Other information**

Indication of changes:

SECTION 1.

Data sources : U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens.

Abbreviations and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of Chemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department Of Transportation (US))  
ICAO (International Civil Aviation Organization)  
NOHSC (National Occupational Health and Safety Commission (Australia))  
NTP (National Toxicology Program) (US)  
OSHA (Occupational Safety and Health Administration) (US)  
PEL (Permissible Exposure Limit)  
TLV (Threshold Limit Value) (ACGIH)  
TSCA (Toxic Substances Control Act) (US)  
TWA (Time Weighted Average).

Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
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
R22	Harmful if swallowed
R41	Risk of serious damage to eyes
R38	Irritating to skin
R43	May cause sensitization by skin contact
R50	Very toxic to aquatic organisms
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful