

Product name: LC3017C, LC3019C, LC3029C, LC3117C, LC3119C,  
LC3129C, LC3217C, LC3219XLC, LC3229XLC, LC3317C,  
LC3319XLC, LC3329XLC, LC3617C, LC3619XLC, LC3717C,  
LC3719XLC, LC3919C

Date of issue: 15 October 2015  
Revision Date: 17 October 2016  
Version: 6.1  
SDS No: BHC071-01-EUUSOTHER

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

### 1.1. Product identifier

Product Name (Product code) : LC3017C(D003YZ001), LC3019C(D0047C001), LC3029C(D0089W001),  
LC3117C(D0071B001), LC3119C(D0073L001), LC3129C(D00765001),  
LC3217C(D00708001), LC3219XLC(D0072P001), LC3229XLC(D0075A001),  
LC3317C(D008XT001), LC3319XLC(D008YA001), LC3329XLC(D0099L001),  
LC3617C(D0098K001), LC3619XLC(D008BY001), LC3717C(D00993001),  
LC3719XLC(D008CV001), LC3919C(D00JSH001)

### 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: LC3017C, LC3019C, LC3029C, LC3117C, LC3119C,  
LC3129C, LC3217C, LC3219XLC, LC3229XLC, LC3317C,  
LC3319XLC, LC3329XLC, LC3617C, LC3619XLC, LC3717C,  
LC3719XLC, LC3919C

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## 2.2. Label elements

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

EUH phrases : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one(2634-33-5). May produce an allergic reaction

## 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	15 - 25	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
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
colorant	(CAS No) ** (EC no) **	1 - 5	Not classified
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	60 - 70	Not classified

\*\*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 : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, obtain medical attention.  
 First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. If skin irritation or rash occurs: Get medical advice/attention.  
 First-aid measures after eye contact : If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. If eye irritation persists: Get medical advice/attention.  
 First-aid measures after ingestion : Do NOT induce vomiting. Wash out mouth with water and give 100-200 ml of water to drink. Get medical advice/attention if you feel unwell.

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

Symptoms/injuries after inhalation : Unlikely route of exposure.  
 Symptoms/injuries after skin contact : May cause an allergic skin reaction.  
 Symptoms/injuries after eye contact : May cause slight irritation to eyes.  
 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.

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

Hazardous decomposition products in case of fire : May produce toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides if burning.

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LC3719XLC, LC3919C

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**5.3. Advice for firefighters**

Protection during firefighting : Use self-contained breathing apparatus.

**SECTION 6: Accidental release measures**

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

General measures : Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**6.1.1. For non-emergency personnel**

Emergency procedures : Avoid contact with skin, eyes and clothing.

**6.1.2. For emergency responders**

Emergency procedures : Avoid contact with skin, eyes and clothing.

**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 : Avoid contact with skin, eyes and clothing.

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

Storage conditions : Store in a cool dark place. Keep out of reach of children.

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

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>
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>
Spain	Local name	Glicerina

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LC3719XLC, LC3919C

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<b>glycerol (56-81-5)</b>		
Spain	VLA-ED (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> nieblas
United Kingdom	Local name	Glycerol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist
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	: Wear rubber gloves.
Eye protection	: Safety goggles.
Skin and body protection	: Rubber apron, boots.
Respiratory protection	: Not required for normal conditions of use.
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 blue. Liquid
Color	: Dark blue
Odor	: Slight odor
Odor threshold	: No data available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No data 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 available
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	: No data available
Viscosity, dynamic	: 2 - 5 mPa·s
Explosive properties	: Not explosive
Oxidizing properties	: Not available
Explosion limits	: Not available

Product name: LC3017C, LC3019C, LC3029C, LC3117C, LC3119C,  
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LC3319XLC, LC3329XLC, LC3617C, LC3619XLC, LC3717C,  
LC3719XLC, LC3919C

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**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

None known.

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

Will not occur.

**10.4. Conditions to avoid**

Keep away from heat, high humidity and direct sunlight.

**10.5. Incompatible materials**

Acids. Bases. Oxidizing agents. Reducing agents.

**10.6. Hazardous decomposition products**

Carbon monoxide. Carbon dioxide. Nitrogen oxides. Sulphur oxides.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity	: Not classified
LD <sub>50</sub> oral rat	> 2000 mg/kg (OECD 423 method)
Skin corrosion/irritation	: Not classified Not irritating to skin (OECD 404 method) pH: 7 - 9
Serious eye damage/irritation	: Not classified Minimal irritant to the eye (OECD 405 method) pH: 7 - 9
Respiratory or skin sensitization	: Skin sensitization: Non-sensitizer. (OECD 442B method)
Germ cell mutagenicity	: Not classified Mutagenicity : Ames test : negative (OECD 471 method)
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Repeated or prolonged contact may cause skin irritation. May cause slight irritation to eyes. Ingestion may cause irritation of the gastrointestinal tract.

**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>Triethylene glycol monobutyl eter (143-22-6)</b>	
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

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LC3319XLC, LC3329XLC, LC3617C, LC3619XLC, LC3717C,  
LC3719XLC, LC3919C

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<b>Triethylene glycol monobutyl eter (143-22-6)</b>	
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 Not available.

**12.3. Bioaccumulative potential**

Bioaccumulative potential Not available.

<b>glycerol (56-81-5)</b>	
Log Pow	-1.76

<b>Triethylene glycol monobutyl eter (143-22-6)</b>	
Log Pow	0.51

**12.4. Mobility in soil**

Ecology - soil Not 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 : Not 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 : Not available

**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

Product name: LC3017C, LC3019C, LC3029C, LC3117C, LC3119C,  
LC3129C, LC3217C, LC3219XLC, LC3229XLC, LC3317C,  
LC3319XLC, LC3329XLC, LC3617C, LC3619XLC, LC3717C,  
LC3719XLC, LC3919C

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**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**

Contains no REACH substances with Annex XVII restrictions

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

**15.1.2. National regulations**

Regional legislation : 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**

None

**SECTION 16: Other information**

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 Carcinogenic Risks 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)  
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).

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
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
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
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
EUH208	Contains . May produce an allergic reaction

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LC3319XLM, LC3329XLM, LC3617M, LC3619XLM, LC3717M,  
LC3719XLM, LC3919M

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

### 1.1. Product identifier

Product Name (Product code) : LC3017M(D003Z0001), LC3019M(D0047D001), LC3029M(D0089X001),  
LC3117M(D0071C001), LC3119M(D0073M001), LC3129M(D00766001),  
LC3217M(D00709001), LC3219XLM(D0072R001), LC3229XLM(D0075B001),  
LC3317M(D008XU001), LC3319XLM(D008YB001), LC3329XLM(D0099M001),  
LC3617M(D0098L001), LC3619XLM(D008BZ001), LC3717M(D00994001),  
LC3719XLM(D008CW001), LC3919M(D00JSJ001)

### 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: LC3017M, LC3019M, LC3029M, LC3117M, LC3119M, LC3129M, LC3217M, LC3219XLM, LC3229XLM, LC3317M, LC3319XLM, LC3329XLM, LC3617M, LC3619XLM, LC3717M, LC3719XLM, LC3919M

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**2.2. Label elements**

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

EUH phrases : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one(2634-33-5). May produce an allergic reaction

**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	15 - 25	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
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
colorant	(CAS No) ** (EC no) **	2 - 6	Not classified
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	60 - 70	Not classified

\*\*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 : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, obtain medical attention.  
 First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. If skin irritation or rash occurs: Get medical advice/attention.  
 First-aid measures after eye contact : If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. If eye irritation persists: Get medical advice/attention.  
 First-aid measures after ingestion : Do NOT induce vomiting. Wash out mouth with water and give 100-200 ml of water to drink. Get medical advice/attention if you feel unwell.

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

Symptoms/injuries after inhalation : Unlikely route of exposure.  
 Symptoms/injuries after skin contact : May cause an allergic skin reaction.  
 Symptoms/injuries after eye contact : May cause slight irritation to eyes.  
 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.

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

Hazardous decomposition products in case of fire : May produce toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides if burning.

Product name: LC3017M, LC3019M, LC3029M, LC3117M, LC3119M, LC3129M, LC3217M, LC3219XLM, LC3229XLM, LC3317M, LC3319XLM, LC3329XLM, LC3617M, LC3619XLM, LC3717M, LC3719XLM, LC3919M

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**5.3. Advice for firefighters**

Protection during firefighting : Use self-contained breathing apparatus.

**SECTION 6: Accidental release measures**

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

General measures : Ensure adequate ventilation. Avoid all contact with skin, eyes, or clothing.

**6.1.1. For non-emergency personnel**

Emergency procedures : Avoid contact with skin, eyes and clothing.

**6.1.2. For emergency responders**

Emergency procedures : Avoid contact with skin, eyes and clothing.

**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 : Avoid contact with skin, eyes and clothing.

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

Storage conditions : Store in a cool dark place. Keep out of reach of children.

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

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>
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>
Spain	Local name	Glicerina

Product name: LC3017M, LC3019M, LC3029M, LC3117M, LC3119M,  
LC3129M, LC3217M, LC3219XLM, LC3229XLM, LC3317M,  
LC3319XLM, LC3329XLM, LC3617M, LC3619XLM, LC3717M,  
LC3719XLM, LC3919M

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<b>glycerol (56-81-5)</b>		
Spain	VLA-ED (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> nieblas
United Kingdom	Local name	Glycerol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist
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	: Wear rubber gloves.
Eye protection	: Safety goggles.
Skin and body protection	: Rubber apron, boots.
Respiratory protection	: Not required for normal conditions of use.
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	: Magenta. Liquid
Color	: Magenta
Odor	: Slight odor
Odor threshold	: No data available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No data 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 available
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	: No data available
Viscosity, dynamic	: 2 - 5 mPa·s
Explosive properties	: Not explosive
Oxidizing properties	: Not available
Explosion limits	: Not available

Product name: LC3017M, LC3019M, LC3029M, LC3117M, LC3119M,  
LC3129M, LC3217M, LC3219XLM, LC3229XLM, LC3317M,  
LC3319XLM, LC3329XLM, LC3617M, LC3619XLM, LC3717M,  
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**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

None known.

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

Will not occur.

**10.4. Conditions to avoid**

Keep away from heat, high humidity and direct sunlight.

**10.5. Incompatible materials**

Acids. Bases. Oxidizing agents. Reducing agents.

**10.6. Hazardous decomposition products**

Carbon monoxide. Carbon dioxide. Nitrogen oxides. Sulphur oxides.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity	: Not classified
LD <sub>50</sub> oral rat	> 2000 mg/kg (OECD 423 method)
Skin corrosion/irritation	: Not classified Not irritating to skin (OECD 404 method) pH: 7 - 9
Serious eye damage/irritation	: Not classified Practically non-irritant (OECD 405 method) pH: 7 - 9
Respiratory or skin sensitization	: Skin sensitization: Non-sensitizer. (OECD 442B method)
Germ cell mutagenicity	: Not classified Mutagenicity : Ames test : negative (OECD 471 method)
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Repeated or prolonged contact may cause skin irritation. May cause slight irritation to eyes. Ingestion may cause irritation of the gastrointestinal tract.

**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>Triethylene glycol monobutyl eter (143-22-6)</b>	
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

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LC3319XLM, LC3329XLM, LC3617M, LC3619XLM, LC3717M,  
LC3719XLM, LC3919M

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<b>Triethylene glycol monobutyl eter (143-22-6)</b>	
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 Not available.

**12.3. Bioaccumulative potential**

Bioaccumulative potential Not available.

<b>glycerol (56-81-5)</b>	
Log Pow	-1.76

<b>Triethylene glycol monobutyl eter (143-22-6)</b>	
Log Pow	0.51

**12.4. Mobility in soil**

Ecology - soil Not 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 : Not 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 : Not available

**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

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LC3319XLM, LC3329XLM, LC3617M, LC3619XLM, LC3717M,  
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**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**

Contains no REACH substances with Annex XVII restrictions

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

**15.1.2. National regulations**

Regional legislation : 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**

None

**SECTION 16: Other information**

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 Carcinogenic Risks 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)  
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).

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
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
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
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
EUH208	Contains . May produce an allergic reaction

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LC3719XLY, LC3919Y

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

### 1.1. Product identifier

Product Name (Product code) : LC3017Y(D003Z1001), LC3019Y(D0047E001), LC3029Y(D0089Y001),  
LC3117Y(D0071D001), LC3119Y(D0073N001), LC3129Y(D00767001),  
LC3217Y(D0070A001), LC3219XLY(D0072S001), LC3229XLY(D0075C001),  
LC3317Y(D008XV001), LC3319XLY(D008YC001), LC3329XLY(D0099N001),  
LC3617Y(D0098M001), LC3619XLY(D008C0001), LC3717Y(D00995001),  
LC3719XLY(D008CX001), LC3919Y(D00JSK001)

### 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: LC3017Y, LC3019Y, LC3029Y, LC3117Y, LC3119Y,  
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LC3319XLY, LC3329XLY, LC3617Y, LC3619XLY, LC3717Y,  
LC3719XLY, LC3919Y

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## 2.2. Label elements

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

EUH phrases : EUH208 - Contains 1,2-benzisothiazol-3(2H)-one(2634-33-5). May produce an allergic reaction

## 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 - 30	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
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
colorant	(CAS No) ** (EC no) **	1 - 5	Not classified
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	55 - 65	Not classified

\*\*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 : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, obtain medical attention.

First-aid measures after skin contact : Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do NOT induce vomiting. Wash out mouth with water and give 100-200 ml of water to drink. Get medical advice/attention if you feel unwell.

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

Symptoms/injuries after inhalation : Unlikely route of exposure.

Symptoms/injuries after skin contact : May cause an allergic skin reaction.

Symptoms/injuries after eye contact : May cause slight irritation to eyes.

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.

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

Hazardous decomposition products in case of fire : May produce toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides if burning.



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LC3319XLY, LC3329XLY, LC3617Y, LC3619XLY, LC3717Y,  
LC3719XLY, LC3919Y

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**5.3. Advice for firefighters**

Protection during firefighting : Use self-contained breathing apparatus.

**SECTION 6: Accidental release measures**

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

General measures : Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.1.1. For non-emergency personnel**

Emergency procedures : Avoid contact with skin, eyes and clothing.

**6.1.2. For emergency responders**

Emergency procedures : Avoid contact with skin, eyes and clothing.

**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 : Avoid contact with skin, eyes and clothing.

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

Storage conditions : Store in a cool dark place. Keep out of reach of children.

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

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>
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>
Spain	Local name	Glicerina

Product name: LC3017Y, LC3019Y, LC3029Y, LC3117Y, LC3119Y,  
LC3129Y, LC3217Y, LC3219XLY, LC3229XLY, LC3317Y,  
LC3319XLY, LC3329XLY, LC3617Y, LC3619XLY, LC3717Y,  
LC3719XLY, LC3919Y

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<b>glycerol (56-81-5)</b>		
Spain	VLA-ED (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> nieblas
United Kingdom	Local name	Glycerol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> mist
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	: Wear rubber gloves.
Eye protection	: Safety goggles.
Skin and body protection	: Rubber apron, boots.
Respiratory protection	: Not required for normal conditions of use.
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 yellow. Liquid
Color	: Dark yellow
Odor	: Slight odor
Odor threshold	: No data available
pH	: 7 - 9
Relative evaporation rate (butyl acetate=1)	: No data 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 available
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	: No data available
Viscosity, dynamic	: 2 - 5 mPa·s
Explosive properties	: Not explosive
Oxidizing properties	: Not available
Explosion limits	: Not available

Product name: LC3017Y, LC3019Y, LC3029Y, LC3117Y, LC3119Y,  
LC3129Y, LC3217Y, LC3219XLY, LC3229XLY, LC3317Y,  
LC3319XLY, LC3329XLY, LC3617Y, LC3619XLY, LC3717Y,  
LC3719XLY, LC3919Y

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**9.2. Other information**

No additional information available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

None known.

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

Will not occur.

**10.4. Conditions to avoid**

Keep away from heat, high humidity and direct sunlight.

**10.5. Incompatible materials**

Acids. Bases. Oxidizing agents. Reducing agents.

**10.6. Hazardous decomposition products**

Carbon monoxide. Carbon dioxide. Nitrogen oxides. Sulphur oxides.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity	: Not classified
LD <sub>50</sub> oral rat	> 2000 mg/kg (OECD 423 method)
Skin corrosion/irritation	: Not classified Not irritating to skin (OECD 404 method) pH: 7 - 9
Serious eye damage/irritation	: Not classified Minimal irritant to the eye (OECD 405 method) pH: 7 - 9
Respiratory or skin sensitization	: Skin sensitization: Non-sensitizer. (OECD 442B method)
Germ cell mutagenicity	: Not classified Mutagenicity : Ames test : negative (OECD 471 method)
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
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>Triethylene glycol monobutyl eter (143-22-6)</b>	
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

Product name: LC3017Y, LC3019Y, LC3029Y, LC3117Y, LC3119Y,  
LC3129Y, LC3217Y, LC3219XLY, LC3229XLY, LC3317Y,  
LC3319XLY, LC3329XLY, LC3617Y, LC3619XLY, LC3717Y,  
LC3719XLY, LC3919Y

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**12.2. Persistence and degradability**

Persistence and degradability Not available.

**12.3. Bioaccumulative potential**

Bioaccumulative potential Not available.

<b>glycerol (56-81-5)</b>	
Log Pow	-1.76

<b>Triethylene glycol monobutyl eter (143-22-6)</b>	
Log Pow	0.51

**12.4. Mobility in soil**

Ecology - soil Not 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 : Not 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 : Not available

**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

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LC3129Y, LC3217Y, LC3219XLY, LC3229XLY, LC3317Y,  
LC3319XLY, LC3329XLY, LC3617Y, LC3619XLY, LC3717Y,  
LC3719XLY, LC3919Y

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## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions  
Contains no REACH candidate substance  
Contains no REACH Annex XIV substances.

#### 15.1.2. National regulations

Regional legislation : 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

None

## SECTION 16: Other information

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 Carcinogenic Risks 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)  
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).

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
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
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
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
EUH208	Contains . May produce an allergic reaction