

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

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

1.1 Product identifier

Product name (code) LC10EBK(LK9896001), LC12EBK(LK9920001), LC15EBK(LK9908001), LC101BK(LK7322001), LC103BK(LK6537001), LC107BK(LK6576001), LC109BK(LK7597001), LC110BK(LK7507001), LC111BK(LK7475001), LC113BK(LK6868001), LC117BK(LK6900001), LC119BK(LK7598001), LC121BK(LK7370001), LC123BK(LK6810001), LC127XLBK(LK6924001), LC129XLBK(LK7599001), LC131BK(LK7406001), LC133BK(LK7242001), LC137XLBK(LK7209001), LC139XLBK(LK7600001), LC161BK(LK7652001), LC163BK(LK7656001), LC509BK(LK7725001), LC529XLBK(LK7729001), LC539XLBK(LK7733001), LC549XLBK(LK7738001), LC563BK(LK6970001), LC567XLBK(LK6974001), LC569XLBK(LK7723001), LC583BK(LK7001001), LC587XLBK(LK7005001), LC589XLBK(LK7724001), LC597XLBK(LK7017001), LC599XLBK(LK7737001)

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

Relevant Identified Use(s) 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.

1.3 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 Telephone (24 hours) 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

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK,
LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK,
LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK,
LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK,
LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK,
LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK,
LC597XLBK, LC599XLBK Ink

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

Classification according to OSHA GHS

Not classified as hazardous

Australia Classification

Not classified as hazardous according to the criteria of NOHSC

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008

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

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name | CAS-No | EC-No | w/w% | Classification (67/548/EEC) | Classification (EU Reg. 1272/2008) |
|------------------------------|-----------|-----------|--------|--|---|
| Glycerol | 56-81-5 | 200-289-5 | 5-15 | Not classified | Not classified |
| Carbon Black | 1333-86-4 | 215-609-9 | 1-10 | Not classified | Not classified |
| Diethylene glycol | 111-46-6 | 203-872-2 | 1-9 | Xn; R22 | Acute Tox. 4 (H302) |
| Water | 7732-18-5 | 231-791-2 | 60-70 | Not classified | Not classified |
| 1,2-benzisothiazol-3(2H)-one | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22 Xi; R41 Xi; R38 R43 N; R50 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention. |
| Inhalation | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest. |
| Skin contact | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. |
| Eye contact | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.
Eye contact: May cause eye irritation.
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.
Inhalation: Unlikely route of exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

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

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

5.3 Advice for firefighters

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

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 materials for containment and cleaning up

Wipe up with absorbent towel. Wash with water to remove remaining traces of ink.

6.4 Reference to other sections

For personal protection: See section 8.
For disposal considerations: See section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep out of the reach of children. Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

7.3 Specific end use(s)

These products are black ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

| Chemical Name | Glycerol 56-81-5 |
|---------------|--------------------------------|
| ACGIH TLV | TWA: 10 mg/m ³ mist |

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

| | |
|---------------------------|---|
| OSHA PEL | TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction |
| European Union | - |
| The United Kingdom | STEL: 30 mg/m ³ TWA: 10 mg/m ³ |
| France | TWA: 10 mg/m ³ |
| Spain | TWA: 10 mg/m ³ |
| Germany | TWA: 50 mg/m ³ Ceiling / Peak: 100 mg/m ³ |
| Portugal | TWA: 10 mg/m ³ |
| Finland | TWA: 20 mg/m ³ |
| Switzerland | STEL: 100 mg/m ³ TWA: 50 mg/m ³ |
| Poland | TWA: 10 mg/m ³ |
| Ireland | TWA: 10 mg/m ³ |
| Chemical Name | Carbon Black 1333-86-4 |
| ACGIH TLV | TWA: 3 mg/m ³ inhalable fraction |
| OSHA PEL | TWA: 3.5 mg/m ³ |
| European Union | - |
| The United Kingdom | STEL: 7 mg/m ³ TWA: 3.5 mg/m ³ |
| France | TWA: 3.5 mg/m ³ |
| Spain | TWA: 3.5 mg/m ³ |
| Germany | Carc |
| Portugal | TWA: 3.5 mg/m ³ |
| Finland | TWA: 3.5 mg/m ³ STEL: 7 mg/m ³ |
| Denmark | TWA: 3.5 mg/m ³ |
| Poland | TWA: 4.0 mg/m ³ |
| Norway | TWA: 3.5 mg/m ³ STEL: 7 mg/m ³ |
| Ireland | TWA: 3.5 mg/m ³ STEL: 7 mg/m ³ |
| Chemical Name | Diethylene glycol 111-46-6 |
| ACGIH TLV | - |
| OSHA PEL | - |
| European Union | - |
| The United Kingdom | STEL: 69 ppm STEL: 303 mg/m ³ TWA: 23 ppm TWA: 101 mg/m ³ |
| Germany | TWA: 10 ppm TWA: 44 mg/m ³ Ceiling / Peak: 40 ppm Ceiling / Peak: 176 mg/m ³ |
| Denmark | TWA: 2.5 ppm TWA: 11 mg/m ³ |
| Austria | STEL 40 ppm STEL 176 mg/m ³ TWA: 10 ppm TWA: 44 mg/m ³ |
| Switzerland | STEL: 40 ppm STEL: 176 mg/m ³ TWA: 10 ppm TWA: 44 mg/m ³ |
| Poland | TWA: 10 mg/m ³ |

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

| | |
|---------|---|
| Ireland | TWA: 23 ppm TWA: 100 mg/m ³ |
|---------|---|

8.2 Exposure controls

- Appropriate engineering controls** Good general ventilation should be sufficient under normal use.
- Personal protective equipment** Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:
- Eye Protection Safety goggles.
Hand Protection Protective gloves.
Skin and body protection Long sleeved clothing and long pants.
Respiratory protection 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

| | |
|--|--|
| Appearance | |
| Physical state | Liquid |
| Color | Black |
| Odor | Slight |
| Odor Threshold | No information available |
| pH | 7 - 9 |
| Melting point/freezing point | - / < -5 °C |
| Initial boiling point and boiling range | > 100 °C |
| Flash Point | Not less than 93.3°C (Tag closed cup; Cleveland open cup) |
| Evaporation rate | No information available |
| Flammability (solid, gas) | Not applicable |
| Upper/lower flammability or explosive limits | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | 1.0 - 1.1 (H ₂ O=1) |
| Solubility(ies) | Soluble (water) |
| Partition coefficient: n-octanol/water | No information available |
| Auto-ignition temperature | >400 °C |
| Decomposition temperature | No information available |
| Viscosity | 2 - 5 mPa·s |
| Explosive properties | Not explosive |
| Oxidizing properties | No information available |

9.2 Other information

No information available.

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

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 | Contains: Carbon monoxide (CO). Carbon dioxide (CO ₂). |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| | |
|--------------|--|
| Inhalation | No information available. |
| Eye contact | No information available. |
| Skin contact | No information available. |
| Ingestion | LD ₅₀ > 2000 mg/kg (Method: OECD#420) |

Skin corrosion/irritation Non-irritant. (Method: OECD#404)

Serious eye damage/irritation Minimal irritant to the eye. (Method: OECD#405)

Respiratory or skin sensitisation It is not a skin sensitizer. (Method: OECD#429)

Mutagenicity Negative. (Method: OECD#471)

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.

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

SECTION 12: Ecological information

12.1 Toxicity

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|-------------------------------|-------------------|---|---|
| Glycerol 56-81-5 | | LC ₅₀ : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss) | EC ₅₀ : >500 mg/L 24 h (Daphnia magna) |
| Carbon Black 1333-86-4 | | | EC ₅₀ : >5600 mg/L 24 h (Daphnia magna) |
| Diethylene glycol 111-46-6 | | LC ₅₀ : 75200 mg/L 96 h flow-through (Pimephales promelas) | EC ₅₀ : 84000 mg/L 48 h (Daphnia magna) |

12.2 Persistence and degradability No information available.

12.3 Bioaccumulative potential

| Chemical Name | log Pow |
|-------------------|---------|
| Glycerol | -1.76 |
| Diethylene glycol | -1.98 |

12.4 Mobility in soil No information available.

12.5 Results of PBT and vPvB assessment This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Dispose of in accordance with Federal, State, and local regulations.

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK, LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK, LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK, LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK, LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK, LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK, LC597XLBK, LC599XLBK Ink

SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

| | |
|--|----------------|
| 14.1 UN Number | None |
| 14.2 UN proper shipping name | None |
| 14.3 Transport hazard class(es) | None |
| 14.4 Packing Group | None |
| 14.5 Environmental hazards | None |
| 14.6 Special precautions for user | None |
| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code | Not applicable |

Not regulated under DOT, IMDG, IATA.

SECTION 15: Regulatory information

| | |
|--|---|
| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture | <p>EU: Not classified as dangerous for supply/use. (1999/45/EC)</p> <p>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.</p> <p>Canada: WHMIS: Not applicable. (Manufactured article)</p> |
| 15.2 Chemical Safety Assessment | No. |

Product name: LC10EBK, LC12EBK, LC15EBK, LC101BK,
LC103BK, LC107BK, LC109BK, LC110BK, LC111BK, LC113BK,
LC117BK, LC119BK, LC121BK, LC123BK, LC127XLBK, LC129XLBK,
LC131BK, LC133BK, LC137XLBK, LC139XLBK, LC161BK, LC163BK,
LC509BK, LC529XLBK, LC539XLBK, LC549XLBK, LC563BK,
LC567XLBK, LC569XLBK, LC583BK, LC587XLBK, LC589XLBK,
LC597XLBK, LC599XLBK Ink

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3

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

Full text of H-Statements referred to under sections 2 and 3

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

Additional information

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

Revision Note

SECTION 1, 2

References:

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 Risks to Humans World Health Organization
EU Directive 91/322/EEC and 2000/39/EC
NTP 11th Report on Carcinogens

Abbreviations:

ACGIH: American Conference of Governmental Industrial Hygienists
DOT: Department Of Transportation (US)
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
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
WHMIS: Workplace Hazardous Material Information System (Canada)

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

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

1.1 Product identifier

Product name (code) LC10EC(LK9897001), LC12EC(LK9921001), LC15EC(LK9909001), LC101C(LK7323001), LC103C(LK6538001), LC105C(LK6577001), LC110C(LK7508001), LC111C(LK7476001), LC113C(LK6869001), LC115C(LK6901001), LC121C(LK7371001), LC123C(LK6811001), LC125XLC(LK6925001), LC131C(LK7407001), LC133C(LK7243001), LC135XLC(LK7210001), LC161C(LK7653001), LC163C(LK7657001), LC505C(LK7726001), LC525XLC(LK7730001), LC535XLC(LK7734001), LC545XLC(LK7739001), LC563C(LK6971001), LC565XLC(LK6975001), LC583C(LK7002001), LC585XLC(LK7006001), LC595XLC(LK7018001)

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

Relevant Identified Use(s) 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.

1.3 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 Telephone (24 hours) 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

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

Classification according to OSHA GHS

Not classified as hazardous

Australia Classification

Not classified as hazardous according to the criteria of NOHSC

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008

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

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name | CAS-No | EC-No | w/w% | Classification (67/548/EEC) | Classification (EU Reg. 1272/2008) |
|------------------------------------|-----------|-----------|--------|--|---|
| Glycerol | 56-81-5 | 200-289-5 | 10-20 | Not classified | Not classified |
| Diethylene glycol | 111-46-6 | 203-872-2 | 1-9 | Xn; R22 | Acute Tox. 4 (H302) |
| Triethylene glycol monobutyl ether | 143-22-6 | 205-592-6 | 1-5 | Xi; R41 | Eye Dam. 1 (H318) |
| Cyan Dye | * | * | 1-5 | Not classified | Not classified |
| Water | 7732-18-5 | 231-791-2 | 65-75 | Not classified | Not classified |
| 1,2-benzisothiazol-3(2H)-one | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22 Xi; R41 Xi; R38 R43 N; R50 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

* Registered

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention. |
| Inhalation | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest. |
| Skin contact | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. |
| Eye contact | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.
Eye contact: May cause eye irritation.
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.
Inhalation: Unlikely route of exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

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

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

5.3 Advice for firefighters

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

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 materials for containment and cleaning up

Wipe up with absorbent towel. Wash with water to remove remaining traces of ink.

6.4 Reference to other sections

For personal protection: See section 8.
For disposal considerations: See section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep out of the reach of children. Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

7.3 Specific end use(s)

These products are dark blue ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

| Chemical Name | Glycerol 56-81-5 |
|----------------|---|
| ACGIH TLV | TWA: 10 mg/m ³ mist |
| OSHA PEL | TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction |
| European Union | - |

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

| | |
|----------------------|---|
| The United Kingdom | STEL: 30 mg/m ³ TWA: 10 mg/m ³ |
| France | TWA: 10 mg/m ³ |
| Spain | TWA: 10 mg/m ³ |
| Germany | TWA: 50 mg/m ³ Ceiling / Peak: 100 mg/m ³ |
| Portugal | TWA: 10 mg/m ³ |
| Finland | TWA: 20 mg/m ³ |
| Switzerland | STEL: 100 mg/m ³ TWA: 50 mg/m ³ |
| Poland | TWA: 10 mg/m ³ |
| Ireland | TWA: 10 mg/m ³ |
| Chemical Name | Diethylene glycol 111-46-6 |
| ACGIH TLV | - |
| OSHA PEL | - |
| European Union | - |
| The United Kingdom | STEL: 69 ppm STEL: 303 mg/m ³ TWA: 23 ppm TWA: 101 mg/m ³ |
| Germany | TWA: 10 ppm TWA: 44 mg/m ³ Ceiling / Peak: 40 ppm Ceiling / Peak: 176 mg/m ³ |
| Denmark | TWA: 2.5 ppm TWA: 11 mg/m ³ |
| Austria | STEL 40 ppm STEL 176 mg/m ³ TWA: 10 ppm TWA: 44 mg/m ³ |
| Switzerland | STEL: 40 ppm STEL: 176 mg/m ³ TWA: 10 ppm TWA: 44 mg/m ³ |
| Poland | TWA: 10 mg/m ³ |
| Ireland | TWA: 23 ppm TWA: 100 mg/m ³ |

8.2 Exposure controls

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

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

| | |
|--------------------------|--|
| Eye Protection | Safety goggles. |
| Hand Protection | Protective gloves. |
| Skin and body protection | Long sleeved clothing and long pants. |
| Respiratory protection | Large spillages: Wear suitable respiratory protective equipment. |

Environmental Exposure Controls Avoid release to the environment.

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|--|
| Appearance | |
| Physical state | Liquid |
| Color | Dark blue |
| Odor | Slight |
| Odor Threshold | No information available |
| pH | 7 - 9 |
| Melting point/freezing point | - / < -5 °C |
| Initial boiling point and boiling range | > 100 °C |
| Flash Point | Not less than 93.3°C (Tag closed cup; Cleveland open cup) |
| Evaporation rate | No information available |
| Flammability (solid, gas) | Not applicable |
| Upper/lower flammability or explosive limits | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | 1.0 - 1.1 (H ₂ O=1) |
| Solubility(ies) | Soluble (water) |
| Partition coefficient: n-octanol/water | No information available |
| Auto-ignition temperature | >400 °C |
| Decomposition temperature | No information available |
| Viscosity | 2 - 5 mPa·s |
| Explosive properties | Not explosive |
| Oxidizing properties | No information available |

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

| | |
|--|--|
| 10.1 Reactivity | No information available. |
| 10.2 Chemical stability | Stable. |
| 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 | Contains: Carbon monoxide (CO). Carbon dioxide (CO ₂). |

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

Issuing Date: 26-October-2011
Revision Date: 22-June -2017
Version: 6.1
SDS No: BHC023-01-EUUSOTHER

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| | |
|--------------|--|
| Inhalation | No information available. |
| Eye contact | No information available. |
| Skin contact | No information available. |
| Ingestion | LD ₅₀ > 2000 mg/kg (Method: OECD#420) |

Skin corrosion/irritation Non-irritant. (Method: OECD#404)

Serious eye damage/irritation Minimal irritant to the eye. (Method: OECD#405)

Respiratory or skin sensitisation It is not a skin sensitizer. (Method: OECD#429)

Mutagenicity Negative. (Method: OECD#471)

Carcinogenicity **Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA**

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

SECTION 12: Ecological information

12.1 Toxicity

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|--|---|---|---|
| Glycerol 56-81-5 | | LC ₅₀ : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss) | EC ₅₀ : >500 mg/L 24 h (Daphnia magna) |
| Diethylene glycol 111-46-6 | | LC ₅₀ : 75200 mg/L 96 h flow-through (Pimephales promelas) | EC ₅₀ : 84000 mg/L 48 h (Daphnia magna) |
| Triethylene glycol monobutyl ether 143-22-6 | EC ₅₀ : >500 mg/L 72 h (Desmodesmus subspicatus) | LC ₅₀ : 2200 - 4600 mg/L 96 h static (Leuciscus idus) LC ₅₀ : 2400 mg/L 96 h static (Pimephales promelas) LC ₅₀ : 2400 mg/L 96 h (Pimephales promelas) | EC ₅₀ : >500 mg/L 48 h (Daphnia magna) |

12.2 Persistence and degradability No information available.

12.3 Bioaccumulative potential

| Chemical Name | log Pow |
|------------------------------------|---------|
| Glycerol | -1.76 |
| Diethylene glycol | -1.98 |
| Triethylene glycol monobutyl ether | 0.51 |

12.4 Mobility in soil No information available.

12.5 Results of PBT and vPvB assessment This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Dispose of in accordance with Federal, State, and local regulations.

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

| | |
|---|----------------|
| 14.1 UN Number | None |
| 14.2 UN proper shipping name | None |
| 14.3 Transport hazard class(es) | None |
| 14.4 Packing Group | None |
| 14.5 Environmental hazards | None |
| 14.6 Special precautions for user | None |
| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code | Not applicable |

Not regulated under DOT, IMDG, IATA.

SECTION 15: Regulatory information

| | |
|---|---|
| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture | <p>EU: Not classified as dangerous for supply/use. (1999/45/EC)</p> <p>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.</p> <p>Canada: WHMIS: Not applicable. (Manufactured article)</p> |
| 15.2 Chemical Safety Assessment | No. |

Product name: LC10EC, LC12EC, LC15EC, LC101C, LC103C, LC105C, LC110C, LC111C, LC113C, LC115C, LC121C, LC123C, LC125XLC, LC131C, LC133C, LC135XLC, LC161C, LC163C, LC505C, LC525XLC, LC535XLC, LC545XLC, LC563C, LC565XLC, LC583C, LC585XLC, LC595XLC Ink

Issuing Date: 26-October-2011
Revision Date: 22-June -2017
Version: 6.1
SDS No: BHC023-01-EUUSOTHER

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3

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

Full text of H-Statements referred to under sections 2 and 3

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

Additional information

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

Revision Note

SECTION 1, 2.

References:

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:

ACGIH: American Conference of Governmental Industrial Hygienists
DOT: Department Of Transportation (US)
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
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
WHMIS: Workplace Hazardous Material Information System (Canada)

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

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

1.1 Product identifier

Product name (code) LC10EM(LK9898001), LC12EM(LK9922001), LC15EM(LK9910001), LC101M(LK7324001), LC103M(LK6539001), LC105M(LK6578001), LC110M(LK7509001), LC111M(LK7477001), LC113M(LK6870001), LC115M(LK6902001), LC121M(LK7372001), LC123M(LK6812001), LC125XLM(LK6926001), LC131M(LK7408001), LC133M(LK7244001), LC135XLM(LK7211001), LC161M(LK7654001), LC163M(LK7658001), LC505M(LK7727001), LC525XLM(LK7731001), LC535XLM(LK7735001), LC545XLM(LK7740001), LC563M(LK6972001), LC565XLM(LK6976001), LC583M(LK7003001), LC585XLM(LK7007001), LC595XLM(LK7019001)

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

Relevant Identified Use(s) 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.

1.3 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 Telephone (24 hours) 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

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

Classification according to OSHA GHS

Not classified as hazardous

Australia Classification

Not classified as hazardous according to the criteria of NOHSC

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008

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

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name | CAS-No | EC-No | w/w% | Classification (67/548/EEC) | Classification (EU Reg. 1272/2008) |
|------------------------------|-----------|-----------|--------|--|---|
| Glycerol | 56-81-5 | 200-289-5 | 10-20 | Not classified | Not classified |
| Magenta Dye | * | * | <2.5 | N; R51/53 | Aquatic Chronic 2 (H411) |
| Water | 7732-18-5 | 231-791-2 | 65-80 | Not classified | Not classified |
| 1,2-benzisothiazol-3(2H)-one | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22 Xi; R41 Xi; R38 R43 N; R50 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

* Registered

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention. |
| Inhalation | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest. |
| Skin contact | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. |
| Eye contact | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.
Eye contact: May cause eye irritation.
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.
Inhalation: Unlikely route of exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

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

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

5.3 Advice for firefighters

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

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 materials for containment and cleaning up

Wipe up with absorbent towel. Wash with water to remove remaining traces of ink.

6.4 Reference to other sections

For personal protection: See section 8.
For disposal considerations: See section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep out of the reach of children. Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

7.3 Specific end use(s)

These products are dark red ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

| Chemical Name | Glycerol 56-81-5 |
|----------------|---|
| ACGIH TLV | TWA: 10 mg/m ³ mist |
| OSHA PEL | TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction |
| European Union | - |

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

| | |
|---------------------------|--|
| The United Kingdom | STEL: 30 mg/m ³ TWA: 10 mg/m ³ |
| France | TWA: 10 mg/m ³ |
| Spain | TWA: 10 mg/m ³ |
| Germany | TWA: 50 mg/m ³ Ceiling / Peak: 100 mg/m ³ |
| Portugal | TWA: 10 mg/m ³ |
| Finland | TWA: 20 mg/m ³ |
| Switzerland | STEL: 100 mg/m ³ TWA: 50 mg/m ³ |
| Poland | TWA: 10 mg/m ³ |
| Ireland | TWA: 10 mg/m ³ |

8.2 Exposure controls

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

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

| | |
|--------------------------|--|
| Eye Protection | Safety goggles. |
| Hand Protection | Protective gloves. |
| Skin and body protection | Long sleeved clothing and long pants. |
| Respiratory protection | Large spillages: Wear suitable respiratory protective equipment. |

Environmental Exposure Controls Avoid release to the environment.

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|--|
| Appearance | |
| Physical state | Liquid |
| Color | Dark red |
| Odor | Slight |
| Odor Threshold | No information available |
| pH | 7 - 9 |
| Melting point/freezing point | - / < -5 °C |
| Initial boiling point and boiling range | > 100 °C |
| Flash Point | Not less than 93.3°C (Tag closed cup; Cleveland open cup) |
| Evaporation rate | No information available |
| Flammability (solid, gas) | Not applicable |
| Upper/lower flammability or explosive limits | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | 1.0 - 1.1 (H ₂ O=1) |
| Solubility(ies) | Soluble (water) |
| Partition coefficient: n-octanol/water | No information available |
| Auto-ignition temperature | >400 °C |
| Decomposition temperature | No information available |
| Viscosity | 2 - 5 mPa·s |
| Explosive properties | Not explosive |
| Oxidizing properties | No information available |

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

| | |
|---|--|
| 10.1 Reactivity | No information available. |
| 10.2 Chemical stability | Stable. |
| 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 | Contains: Carbon monoxide (CO). Carbon dioxide (CO ₂). |

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation No information available.
Eye contact No information available.
Skin contact No information available.
Ingestion LD₅₀ > 2000 mg/kg (Method: OECD#420)

Skin corrosion/irritation Non-irritant. (Method: OECD#404)

Serious eye damage/irritation Minimal irritant to the eye. (Method: OECD#405)

Respiratory or skin sensitisation It is not a skin sensitizer. (Method: OECD#429)

Mutagenicity Negative. (Method: OECD#471)

Carcinogenicity **Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA**

SECTION 12: Ecological information

12.1 Toxicity

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|---------------------|-------------------|---|---|
| Glycerol 56-81-5 | | LC ₅₀ : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss) | EC ₅₀ : >500 mg/L 24 h (Daphnia magna) |

12.2 Persistence and degradability No information available.

12.3 Bioaccumulative potential

| Chemical Name | log Pow |
|---------------|---------|
| Glycerol | -1.76 |

12.4 Mobility in soil No information available.

12.5 Results of PBT and vPvB assessment This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Dispose of in accordance with Federal, State, and local regulations.

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M, LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M, LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M, LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM, LC583M, LC585XLM, LC595XLM Ink

SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

| | |
|--|----------------|
| 14.1 UN Number | None |
| 14.2 UN proper shipping name | None |
| 14.3 Transport hazard class(es) | None |
| 14.4 Packing Group | None |
| 14.5 Environmental hazards | None |
| 14.6 Special precautions for user | None |
| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code | Not applicable |

Not regulated under DOT, IMDG, IATA.

SECTION 15: Regulatory information

| | |
|--|---|
| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture | <p>EU: Not classified as dangerous for supply/use. (1999/45/EC)</p> <p>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.</p> <p>Canada: WHMIS: Not applicable. (Manufactured article)</p> |
| 15.2 Chemical Safety Assessment | No. |

Product name: LC10EM, LC12EM, LC15EM, LC101M, LC103M,
LC105M, LC110M, LC111M, LC113M, LC115M, LC121M, LC123M,
LC125XLM, LC131M, LC133M, LC135XLM, LC161M, LC163M,
LC505M, LC525XLM, LC535XLM, LC545XLM, LC563M, LC565XLM,
LC583M, LC585XLM, LC595XLM Ink

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3

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
R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H317 - May cause an allergic skin reaction
H400 - Very toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects

Additional information

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

Revision Note

SECTION 1, 2.

References:

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:

ACGIH: American Conference of Governmental Industrial Hygienists
DOT: Department Of Transportation (US)
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
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
WHMIS: Workplace Hazardous Material Information System (Canada)

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

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

1.1 Product identifier

Product name (code) LC10EY(LK9899001), LC12EY(LK9923001), LC15EY(LK9911001), LC101Y(LK7325001), LC103Y(LK6540001), LC105Y(LK6579001), LC110Y(LK7510001), LC111Y(LK7478001), LC113Y(LK6871001), LC115Y(LK6903001), LC121Y(LK7373001), LC123Y(LK6813001), LC125XLY(LK6927001), LC131Y(LK7409001), LC133Y(LK7245001), LC135XLY(LK7212001), LC161Y(LK7655001), LC163Y(LK7659001), LC505Y(LK7728001), LC525XLY(LK7732001), LC535XLY(LK7736001), LC545XLY(LK7741001), LC563Y(LK6973001), LC565XLY(LK6977001), LC583Y(LK7004001), LC585XLY(LK7008001), LC595XLY(LK7020001)

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

Relevant Identified Use(s) 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.

1.3 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 Telephone (24 hours) 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

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

Classification according to OSHA GHS

Not classified as hazardous

Australia Classification

Not classified as hazardous according to the criteria of NOHSC

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008

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

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture: Water based inkjet ink (Mixture).

| Chemical Name | CAS-No | EC-No | w/w% | Classification (67/548/EEC) | Classification (EU Reg. 1272/2008) |
|------------------------------------|-----------|-----------|--------|--|---|
| Glycerol | 56-81-5 | 200-289-5 | 5-15 | Not classified | Not classified |
| Triethylene glycol monobutyl ether | 143-22-6 | 205-592-6 | 1-5 | Xi; R41 | Eye Dam. 1 (H318) |
| Yellow Dye | * | * | ≤5 | Not classified | Not classified |
| Water | 7732-18-5 | 231-791-2 | 65-80 | Not classified | Not classified |
| 1,2-benzisothiazol-3(2H)-one | 2634-33-5 | 220-120-9 | < 0.05 | Xn; R22 Xi; R41 Xi; R38 R43 N; R50 | Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 |

For the full text of R-phrases and H-Statements see Section 16

* Registered

SECTION 4: First aid measures

4.1 Description of first aid measures

| | |
|----------------|--|
| General advice | If symptoms persist, obtain medical attention. |
| Inhalation | Obtain medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest. |
| Skin contact | Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. |
| Eye contact | Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. |
| 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

Skin contact: Repeated and/or prolonged skin contact may cause irritation.
Eye contact: May cause eye irritation.
Ingestion: Ingestion may cause irritation of the gastrointestinal tract. Unlikely route of exposure.
Inhalation: Unlikely route of exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

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

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

5.3 Advice for firefighters

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

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 materials for containment and cleaning up

Wipe up with absorbent towel. Wash with water to remove remaining traces of ink.

6.4 Reference to other sections

For personal protection: See section 8.
For disposal considerations: See section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep out of the reach of children. Avoid contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from oxidizing agents.

7.3 Specific end use(s)

These products are dark yellow ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

| Chemical Name | Glycerol 56-81-5 |
|----------------|---|
| ACGIH TLV | TWA: 10 mg/m ³ mist |
| OSHA PEL | TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction |
| European Union | - |

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

| | |
|---------------------------|--|
| The United Kingdom | STEL: 30 mg/m ³ TWA: 10 mg/m ³ |
| France | TWA: 10 mg/m ³ |
| Spain | TWA: 10 mg/m ³ |
| Germany | TWA: 50 mg/m ³ Ceiling / Peak: 100 mg/m ³ |
| Portugal | TWA: 10 mg/m ³ |
| Finland | TWA: 20 mg/m ³ |
| Switzerland | STEL: 100 mg/m ³ TWA: 50 mg/m ³ |
| Poland | TWA: 10 mg/m ³ |
| Ireland | TWA: 10 mg/m ³ |

8.2 Exposure controls

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

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

| | |
|--------------------------|--|
| Eye Protection | Safety goggles. |
| Hand Protection | Protective gloves. |
| Skin and body protection | Long sleeved clothing and long pants. |
| Respiratory protection | Large spillages: Wear suitable respiratory protective equipment. |

Environmental Exposure Controls Avoid release to the environment.

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|--|
| Appearance | |
| Physical state | Liquid |
| Color | Dark yellow |
| Odor | Slight |
| Odor Threshold | No information available |
| pH | 7 - 9 |
| Melting point/freezing point | - / < -5 °C |
| Initial boiling point and boiling range | > 100 °C |
| Flash Point | Not less than 93.3°C (Tag closed cup; Cleveland open cup) |
| Evaporation rate | No information available |
| Flammability (solid, gas) | Not applicable |
| Upper/lower flammability or explosive limits | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | 1.0 - 1.1 (H ₂ O=1) |
| Solubility(ies) | Soluble (water) |
| Partition coefficient: n-octanol/water | No information available |
| Auto-ignition temperature | >400 °C |
| Decomposition temperature | No information available |
| Viscosity | 2 - 5 mPa·s |
| Explosive properties | Not explosive |
| Oxidizing properties | No information available |

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

| | |
|---|--|
| 10.1 Reactivity | No information available. |
| 10.2 Chemical stability | Stable. |
| 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 | Contains: Carbon monoxide (CO). Carbon dioxide (CO ₂). |

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y,
LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y,
LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y,
LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y,
LC585XLY, LC595XLY Ink

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| | |
|--------------|--|
| Inhalation | No information available. |
| Eye contact | No information available. |
| Skin contact | No information available. |
| Ingestion | LD ₅₀ > 2000 mg/kg (Method: OECD#420) |

Skin corrosion/irritation Non-irritant. (Method: OECD#404)

Serious eye damage/irritation Minimal irritant to the eye. (Method: OECD#405)

Respiratory or skin sensitisation It is not a skin sensitizer. (Method: OECD#429)

Mutagenicity Negative. (Method: OECD#471)

Carcinogenicity **Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA**

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

SECTION 12: Ecological information

12.1 Toxicity

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|--|---|---|---|
| Glycerol 56-81-5 | | LC ₅₀ : 51 - 57 mL/L 96 h static (Oncorhynchus mykiss) | EC ₅₀ : >500 mg/L 24 h (Daphnia magna) |
| Triethylene glycol monobutyl ether 143-22-6 | EC ₅₀ : >500 mg/L 72 h (Desmodesmus subspicatus) | LC ₅₀ : 2200 - 4600 mg/L 96 h static (Leuciscus idus) LC ₅₀ : 2400 mg/L 96 h static (Pimephales promelas) LC ₅₀ : 2400 mg/L 96 h (Pimephales promelas) | EC ₅₀ : >500 mg/L 48 h (Daphnia magna) |

12.2 Persistence and degradability No information available.

12.3 Bioaccumulative potential

| Chemical Name | log Pow |
|------------------------------------|---------|
| Glycerol | -1.76 |
| Triethylene glycol monobutyl ether | 0.51 |

12.4 Mobility in soil No information available.

12.5 Results of PBT and vPvB assessment This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Dispose of in accordance with Federal, State, and local regulations.

SECTION 14: Transport information

Not classified according to the United Nations "Recommendations on the Transport of Dangerous Goods"

14.1 UN Number None

14.2 UN proper shipping name None

14.3 Transport hazard class(es) None

14.4 Packing Group None

14.5 Environmental hazards None

14.6 Special precautions for user None

14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code Not applicable

Not regulated under DOT, IMDG, IATA.

Product name: LC10EY, LC12EY, LC15EY, LC101Y, LC103Y, LC105Y, LC110Y, LC111Y, LC113Y, LC115Y, LC121Y, LC123Y, LC125XLY, LC131Y, LC133Y, LC135XLY, LC161Y, LC163Y, LC505Y, LC525XLY, LC535XLY, LC545XLY, LC563Y, LC565XLY, LC583Y, LC585XLY, LC595XLY Ink

SECTION 15: Regulatory information

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

SECTION 16: Other information

Full text of R-phrases referred to under sections 2 and 3
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

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H317 - May cause an allergic skin reaction
H400 - Very toxic to aquatic life

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

Revision Note SECTION 1, 2.

References:
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:
ACGIH: American Conference of Governmental Industrial Hygienists
DOT: Department Of Transportation (US)
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
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
WHMIS: Workplace Hazardous Material Information System (Canada)