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

1.1 Product identifier

Product name (code)  
LC101C (LK7323001), LC103C (LK6538001), LC105C (LK6577001), LC110C (LK7508001),  
LC111C (LK7476001), LC113C (LK6969001), LC1152C (LK6910001), 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)

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
Not classified as hazardous

Classification according to Directive 1999/45/EC
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
None

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).

SECTION 3: Composition/information on ingredients

3.2 Mixtures

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>EC-No</th>
<th>w/w%</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (EU Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>200-289-5</td>
<td>10-20</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>111-46-6</td>
<td>203-872-2</td>
<td>1-9</td>
<td>Xn; R22</td>
<td>Acute Tox. 4 (H302)</td>
</tr>
<tr>
<td>Triethylene glycol monobutyl ether</td>
<td>143-22-6</td>
<td>205-592-6</td>
<td>1-5</td>
<td>Xi; R41</td>
<td>Eye Dam. 1 (H318)</td>
</tr>
<tr>
<td>Cyan Dye</td>
<td>*</td>
<td>*</td>
<td>1-5</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>65-75</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Glycerol 56-81-5</th>
<th>Diethylene glycol 111-46-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV</td>
<td>TWA: 10 mg/m³ mist</td>
<td></td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>TWA: 15 mg/m³ mist, total particulate</td>
<td>TWA: 10 mg/m³</td>
</tr>
<tr>
<td>European Union</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The United Kingdom</td>
<td>STEL: 30 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>TWA: 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>TWA: 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>TWA: 50 mg/m³</td>
<td>Ceiling / Peak: 100 mg/m³³</td>
</tr>
<tr>
<td>Portugal</td>
<td>TWA: 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>TWA: 20 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>STEL: 100 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>TWA: 50 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>TWA: 10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>ACGIH TLV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSHA PEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>European Union</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Dark blue</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>7 - 9</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>- / &lt; -5 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>range</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not less than 93.3°C (Tag closed cup; Cleveland open cup)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive</td>
<td>No information available</td>
</tr>
<tr>
<td>limits</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.0 - 1.1 (H_2O=1)</td>
</tr>
<tr>
<td>Solubility/ies</td>
<td>Soluble (water)</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt;400 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>2 - 5 mPa·s</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
</tbody>
</table>

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).
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
SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diethylene glycol 111-46-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triethylene glycol monobutyl ether 143-22-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LC50: 51 - 57 mL/L 96 h static (Oncorhynchus mykiss)</td>
<td>LC50: 75200 mg/L 96 h flow-through (Pimephales promelas)</td>
<td>EC50: &gt;500 mg/L 24 h (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC50: &gt;500 mg/L 72 h (Desmodesmus subspicatus)</td>
<td>LC50: 2200 - 4600 mg/L 96 h static (Leuciscus idus)</td>
<td>EC50: &gt;500 mg/L 48 h (Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: 2400 mg/L 96 h static (Pimephales promelas)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: 2400 mg/L 96 h (Pimephales promelas)</td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>-1.98</td>
</tr>
<tr>
<td>Triethylene glycol monobutyl ether</td>
<td>0.51</td>
</tr>
</tbody>
</table>

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.

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

Full text of H-Statements referred to under sections 2 and 3
- H302 - Harmful if swallowed
- H318 - Causes serious eye damage

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

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 Carcinogenic Risks to Humans World Health Organization
- 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
- 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)
SAFETY DATA SHEET

Issuing Date: 26-October-2011
22-October-2013


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

1.1 Product identifier

Product name (code) 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)

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

Issuing Date: 26-October-2011
Revision Date: 22-October-2013

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 Directive 1999/45/EC
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
None

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).

SECTION 3: Composition/information on ingredients

3.2 Mixtures

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

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<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>EC-No</th>
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<th>Classification (67/548/EEC)</th>
<th>Classification (EU Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>200-289-5</td>
<td>10-20</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Magenta Dye</td>
<td>*</td>
<td>*</td>
<td>&lt;2.5</td>
<td>N; R51/53</td>
<td>Aquatic Chronic 2 (H411)</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>65-80</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Glycerol 56-81-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV</td>
<td>TWA: 10 mg/m³ mist</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>TWA: 15 mg/m³ mist, total particulate</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ mist, respirable fraction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>European Union</th>
<th>EU</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>The United Kingdom</td>
<td>STEL</td>
<td>30 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>France</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Spain</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Germany</td>
<td>TWA</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Ceiling/Peak</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td>Portugal</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>TWA</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td>Switzerland</td>
<td>STEL</td>
<td>100 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>50 mg/m³</td>
</tr>
<tr>
<td>Poland</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>TWA</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls: Good general ventilation should be sufficient under normal use.
PERSONAL PROTECTIVE EQUIPMENT

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: Dark red
Odor: Slight
Odor Threshold: No information available
pH: 7 - 9
Melting point/freezing point:
Initial boiling point and boiling range: > 100 °C
Flash Point:
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 (H2O=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 (CO2).
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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td>LC₅₀: 51 - 57 mL/L 96 h static (Oncorhynchus mykiss)</td>
<td>EC₅₀: &gt;500 mg/L 24 h (Daphnia magna)</td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistance and degradability  No information available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
</tr>
</tbody>
</table>

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.

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
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
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

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 Carcinogenic Risks to Humans World Health Organization
- 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
- 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)
SAFETY DATA SHEET


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

1.1 Product identifier

Product name (code)
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 (LK7731001), LC525XLM (LK7735001), LC535XLM (LK7740001), LC545XLM (LK6972001), LC563M (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)

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

Not classified as hazardous

Classification according to Directive 1999/45/EC

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
None

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).

SECTION 3: Composition/information on ingredients

3.2 Mixtures

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>EC-No</th>
<th>w/w%</th>
<th>Classification (67/548/EEC)</th>
<th>Classification (EU Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>200-289-5</td>
<td>10-20</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Magenta Dye</td>
<td>*</td>
<td>*</td>
<td>&lt;2.5</td>
<td>N; R51/53</td>
<td>Aquatic Chronic 2 (H411)</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>65-80</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

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.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Glycerol 56-81-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV</td>
<td>TWA: 10 mg/m³ mist</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>TWA: 15 mg/m³ mist, total particulate</td>
</tr>
<tr>
<td></td>
<td>TWA: 5 mg/m³ mist, respirable fraction</td>
</tr>
<tr>
<td>European Union</td>
<td></td>
</tr>
<tr>
<td>The United Kingdom</td>
<td>STEL: 30 mg/m³</td>
</tr>
<tr>
<td>France</td>
<td>TWA: 10 mg/m³</td>
</tr>
<tr>
<td>Spain</td>
<td>TWA: 10 mg/m³</td>
</tr>
<tr>
<td>Germany</td>
<td>TWA: 50 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Ceiling / Peak: 100 mg/m³</td>
</tr>
<tr>
<td>Portugal</td>
<td>TWA: 10 mg/m³</td>
</tr>
<tr>
<td>Finland</td>
<td>TWA: 20 mg/m</td>
</tr>
<tr>
<td>Switzerland</td>
<td>STEL: 100 mg/m³</td>
</tr>
<tr>
<td></td>
<td>TWA: 50 mg/m³</td>
</tr>
<tr>
<td>Poland</td>
<td>TWA: 10 mg/m³</td>
</tr>
<tr>
<td>Ireland</td>
<td>TWA: 10 mg/m³</td>
</tr>
</tbody>
</table>

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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Dark red</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>7 - 9</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not less than 93.3°C</td>
</tr>
<tr>
<td>(Tag closed cup; Cleveland open cup)</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.0 - 1.1 (H₂O=1)</td>
</tr>
<tr>
<td>Solubility(s)</td>
<td>Soluble (water)</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt;400 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>2 - 5 mPa·s</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**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 (CO₂).
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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol 56-81-5</td>
<td>LC₅₀: 51 - 57 mL/L 96 h static (Oncorhynchus mykiss)</td>
<td>EC₅₀: &gt;500 mg/L 24 h (Daphnia magna)</td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistance and degradability  No information available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol</td>
<td>-1.76</td>
</tr>
</tbody>
</table>

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.

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.
SAFETY DATA SHEET


SECTION 16: Other information

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

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ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
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NTP 11th Report on Carcinogens

Abbreviations:
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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)