

Revision Date: -

Issuing Date: 08-Jan-2021

Revision Number: 1

Safety data sheet number: BHC253-01

Product Name: LC404C, LC414C, LC424C

1. IDENTIFICATION

Product identifier

Product Name LC404C, LC414C, LC424C

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Water based ink for inkjet printing machine

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

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

Supplier Address

Brother International Corporation
200 Crossing Boulevard, Bridgewater, NJ 08807, USA
Telephone (for information): +1-877-276-8437

Emergency telephone number

Emergency Telephone CHEMTREC +1-703-527-3887 (International)
CHEMTREC +1-800-424-9300 (North America)

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

The product contains no substances which at their given concentration, are considered to be hazardous to health

Appearance
Physical state Liquid **Odor:** Slight

Other Information

Unknown acute toxicity

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30 % of the mixture consists of ingredient(s) of unknown toxicity
 5 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
 30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 30 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
 10 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Trade secret
Water	7732-18-5	65-75	*
Glycerol	56-81-5	10-20	*
Triethylene glycol, monobutyl ether	143-22-6	1-5	*
Diethylene glycol	111-46-6	5-9	*
1,2-Benzisothiazolin-3-one	2634-33-5	<0.05	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

** Trade secret

4. FIRST AID MEASURES

Description of first aid measures

General advice If symptoms persist, call a physician.

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

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

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

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

Most important symptoms and effects, both acute and delayed

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

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Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Dry chemical, CO₂, water spray or regular foam

Unsuitable extinguishing media None.

Specific hazards arising from the chemical Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon monoxide Carbon dioxide (CO₂) Nitrogen oxides (NOx) Oxides of sulfur

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

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

Methods and material for containment and cleaning up

Methods for containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

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

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

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Conditions for safe storage, including any incompatibilities

Storage Conditions Keep out of the reach of children. Keep cool. Protect from sunlight.

The information required is contained in this Safety Data Sheet

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerol 56-81-5	No data available	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-

Appropriate engineering controls

Engineering controls Good general ventilation should be sufficient under normal use.

Individual protection measures, such as personal protective equipment

Eye/face protection If there is a risk of contact.: Safety goggles.

Hand protection If there is a risk of contact.: Protective gloves.

Skin and body protection If there is a risk of contact.: Apron. Boots.

Respiratory protection Use appropriate respiratory protection.

Environmental exposure controls Avoid release to the environment.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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Appearance
Physical state Liquid
Color dark blue
Odor Slight
Odor threshold No information available

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

10. STABILITY AND REACTIVITY

Reactivity None.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Keep away from heat. Keep away from water or moist air.

Incompatible materials Acids, Bases, Oxidizing agent, Reducing agent

Hazardous decomposition products Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Oxides of sulfur

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11. TOXICOLOGICAL INFORMATION

Product Information

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol 56-81-5	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	-	-
Triethylene glycol, monobutyl ether	EC50: >500mg/L (72h, Desmodesmus)	LC50: =2400mg/L (96h, Pimephales promelas)	-	EC50: >500mg/L (48h, Daphnia magna)

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143-22-6	subspicatus)			
Diethylene glycol 111-46-6	-	LC50: =75200mg/L (96h, Pimephales promelas)	EC50 = 29228 mg/L 15 min	EC50: =84000mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Glycerol 56-81-5	-1.76
Triethylene glycol, monobutyl ether 143-22-6	0.51
Diethylene glycol 111-46-6	-1.98
1,2-Benzisothiazolin-3-one 2634-33-5	1.3

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products Dispose in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated
TDG Not regulated
MEX Not regulated
ICAO (air) Not regulated
IATA Not regulated
IMDG Not regulated
RID Not regulated
ADR Not regulated
ADN Not regulated

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15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Exempt
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard No
Chronic Health Hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Right-to-Know Regulations

US State Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water	-	-	X

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7732-18-5			
Glycerol 56-81-5	X	X	X
Diethylene glycol 111-46-6	-	-	X
Triethylene glycol, monobutyl ether 143-22-6	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<u>NFPA</u>	Health hazards 0	Flammability 1	Instability 0	Section 9: Physical and chemical properties -
<u>HMIS</u>	Health hazards 0	Flammability 1	Physical hazards 0	Personal protection X

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Revision Note No information available

Disclaimer

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

End of Safety Data Sheet