

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017Y, LC3019Y, LC3029Y, LC3037Y, LC3038Y, LC3039Y,
LC3117Y, LC3119Y, LC3129Y, LC3137Y, LC3139Y, LC3159Y, LC3217Y, LC3219Y,
LC3229Y, LC3237Y, LC3239Y, LC3259Y, LC3317Y, LC3319Y, LC3329Y, LC3337Y,
LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

Safety data sheet number: BHY071

1. IDENTIFICATION

Product identifier

Product Name LC3017Y, LC3019Y, LC3029Y, LC3037Y, LC3038Y, LC3039Y, LC3117Y, LC3119Y,
LC3129Y, LC3137Y, LC3139Y, LC3159Y, LC3217Y, LC3219Y, LC3229Y, LC3237Y,
LC3239Y, LC3259Y, LC3317Y, LC3319Y, LC3329Y, LC3337Y, LC3339Y, LC3617Y,
LC3619Y, LC3717Y, LC3719Y, LC3919Y

Other means of identification

Product Code(s) BHY071

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

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 +1-800-424-9300

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

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LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

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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

36 % of the mixture consists of ingredient(s) of unknown toxicity

4 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

36 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

36 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

8 % 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 | 55-65 | * |
| Glycerol | 56-81-5 | 20-30 | * |
| Triethylene glycol, monobutyl ether | 143-22-6 | 1-5 | * |
| Colorant | ** | 1-5 | * |
| 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

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

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Consult a physician.

Skin contact

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

The information required is contained in this Material 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 No special protective equipment required.

Skin and body protection No special protective equipment required.

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LC3339Y, LC3617Y, LC3619Y, LC3717Y, LC3719Y, LC3919Y

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Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

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

Appearance

| | |
|-----------------------|--------------------------|
| Physical state | Liquid |
| Color | dark yellow |
| Odor | Slight |
| Odor threshold | No information available |

Property

Values

Remarks • Method

| | | |
|---------------------------------------|--------------------------|-----------------------------------|
| 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 | 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 No information available.

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| | |
|---|---|
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | None known based on information supplied |
| Incompatible materials | None known based on information supplied |
| Hazardous decomposition products | Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur. |

11. TOXICOLOGICAL INFORMATION

Product Information

| | |
|--|--|
| Inhalation | No information available |
| Eye contact | No information available. |
| Skin contact | No information available. |
| Ingestion | Not classified Acute LD ₅₀ > 2000 mg/kg (OECD 423 method) |
| Skin corrosion/irritation | Not classified Non-irritant (OECD 404 method) |
| Serious eye damage/irritation | Not classified Minimal irritant to the eye (OECD 405 method) |
| Respiratory or skin sensitization | Not classified It is not a skin sensitizer (OECD 442B 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 |

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12. ECOLOGICAL INFORMATION

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|--|--|--|----------------------------|--------------------------------------|
| Glycerol 56-81-5 | - | 51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static | - | 500: 24 h Daphnia magna mg/L EC50 |
| Triethylene glycol, monobutyl ether 143-22-6 | 500: 72 h Desmodium subspicatus mg/L EC50 | 2400: 96 h Pimephales promelas mg/L LC50 static 2400: 96 h Pimephales promelas mg/L LC50 2200 - 4600: 96 h Leuciscus idus mg/L LC50 static | - | 500: 48 h Daphnia magna mg/L EC50 |

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 |
| 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 of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

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14. TRANSPORT INFORMATION

| | |
|-------------------|---------------|
| <u>DOT</u> | Not regulated |
| <u>TDG</u> | Not regulated |
| <u>MEX</u> | Not regulated |
| <u>ICAO (air)</u> | Not regulated |
| <u>IATA</u> | Not regulated |
| <u>IMDG</u> | Not regulated |
| <u>RID</u> | Not regulated |
| <u>ADR</u> | Not regulated |
| <u>ADN</u> | Not regulated |

15. REGULATORY INFORMATION

International Inventories

| | |
|----------|----------|
| TSCA | Complies |
| DSL/NDSL | Exempt |
| 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
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



SAFETY DATA SHEET

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Safety data sheet number: BHY071

| | |
|-----------------------------------|----|
| 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 7732-18-5 | - | - | X |
| Glycerol 56-81-5 | X | X | 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

| | | | | |
|-------------|------------------|----------------|--------------------|--|
| NFPA | Health hazards 0 | Flammability 1 | Instability 0 | Section 9: Physical and chemical properties - |
| HMIS | Health hazards 0 | Flammability 1 | Physical hazards 0 | Personal protection X |

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Revision Date 31-Aug-2018

Revision Note Not applicable.

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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

Revision Date: 31-Aug-2018

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Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
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Product identifier

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LC3619M, LC3717M, LC3719M, LC3919M

Other means of identification

Product Code(s) BHM071

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address Brother Industries, Ltd.
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Emergency telephone number

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Classification

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Hazards not otherwise classified (HNOC)

Not applicable

Label elements

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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

31 % of the mixture consists of ingredient(s) of unknown toxicity

4 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

31 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

8 % 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 | 60-70 | * |
| Glycerol | 56-81-5 | 15-25 | * |
| Triethylene glycol, monobutyl ether | 143-22-6 | 1-5 | * |
| Colorant | ** | 2-6 | * |
| 1,2-Benzisothiazolin-3-one | 2634-33-5 | <0.05 | * |

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

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4. FIRST AID MEASURES

Description of first aid measures

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

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Consult a physician.

Skin contact

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas

Methods and material for containment and cleaning up

Methods for containment

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Methods for cleaning up

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

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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 No special protective equipment required.

Skin and body protection No special protective equipment required.

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Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

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

Appearance

| | |
|----------------|--------------------------|
| Physical state | Liquid |
| Color | magenta |
| Odor | Slight |
| Odor threshold | No information available |

Property

Values

Remarks • Method

| | | |
|--------------------------------|--------------------------|-----------------------------------|
| 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 | 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 No information available.

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

| | |
|---|---|
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | None known based on information supplied |
| Incompatible materials | None known based on information supplied |
| Hazardous decomposition products | Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur. |

11. TOXICOLOGICAL INFORMATION

Product Information

| | |
|--|--|
| Inhalation | No information available |
| Eye contact | No information available. |
| Skin contact | No information available. |
| Ingestion | Not classified Acute LD ₅₀ > 2000 mg/kg (OECD 423 method) |
| Skin corrosion/irritation | Not classified Non-irritant (OECD 404 method) |
| Serious eye damage/irritation | Not classified Practically non-irritant (OECD 405 method) |
| Respiratory or skin sensitization | Not classified It is not a skin sensitizer (OECD 442B 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 |

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M, LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M, LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M, LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

12. ECOLOGICAL INFORMATION

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|--|--|--|----------------------------|--------------------------------------|
| Glycerol 56-81-5 | - | 51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static | - | 500: 24 h Daphnia magna mg/L EC50 |
| Triethylene glycol, monobutyl ether 143-22-6 | 500: 72 h Desmodium subspicatus mg/L EC50 | 2400: 96 h Pimephales promelas mg/L LC50 static 2400: 96 h Pimephales promelas mg/L LC50 2200 - 4600: 96 h Leuciscus idus mg/L LC50 static | - | 500: 48 h Daphnia magna mg/L EC50 |

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 |
| 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 of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

14. TRANSPORT INFORMATION

| | |
|-------------------|---------------|
| <u>DOT</u> | Not regulated |
| <u>TDG</u> | Not regulated |
| <u>MEX</u> | Not regulated |
| <u>ICAO (air)</u> | Not regulated |
| <u>IATA</u> | Not regulated |
| <u>IMDG</u> | Not regulated |
| <u>RID</u> | Not regulated |
| <u>ADR</u> | Not regulated |
| <u>ADN</u> | Not regulated |

15. REGULATORY INFORMATION

International Inventories

| | |
|---------|----------|
| TSCA | Complies |
| DSL/NDL | Exempt |
| ENCS | Complies |
| IECSC | Complies |
| KECL | Complies |
| PICCS | Complies |
| AICS | Complies |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
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



SAFETY DATA SHEET

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M, LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M, LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M, LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

| | |
|-----------------------------------|----|
| 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 7732-18-5 | - | - | X |
| Glycerol 56-81-5 | X | X | 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

| | | | | |
|-------------|------------------|----------------|--------------------|--|
| NFPA | Health hazards 0 | Flammability 1 | Instability 0 | Section 9: Physical and chemical properties - |
| HMIS | Health hazards 0 | Flammability 1 | Physical hazards 0 | Personal protection X |

Issuing Date 15-Oct-2015

Revision Date 31-Aug-2018

Revision Note Not applicable.

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017M, LC3019M, LC3029M, LC3037M, LC3038M, LC3039M,
LC3117M, LC3119M, LC3129M, LC3137M, LC3139M, LC3159M, LC3217M, LC3219M,
LC3229M, LC3237M, LC3239M, LC3259M, LC3317M, LC3319M, LC3329M, LC3337M,
LC3339M, LC3617M, LC3619M, LC3717M, LC3719M, LC3919M

Safety data sheet number: BHM071

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

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

1. IDENTIFICATION

Product identifier

Product Name LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C,
LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C,
LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C,
LC3619C, LC3717C, LC3719C, LC3919C

Other means of identification

Product Code(s) BHC071

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

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 +1-800-424-9300

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

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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

32 % of the mixture consists of ingredient(s) of unknown toxicity

4 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

32 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

32 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

8 % 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 | 60-70 | * |
| Glycerol | 56-81-5 | 15-25 | * |
| Triethylene glycol, monobutyl ether | 143-22-6 | 1-5 | * |
| Colorant | ** | 1-5 | * |
| 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

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

Consult a physician.

Skin contact

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms

No information available

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas

Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

The information required is contained in this Material 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 No special protective equipment required.

Skin and body protection No special protective equipment required.

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

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

Appearance

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

Property

Values

Remarks • Method

| | | |
|--------------------------------|--------------------------|-----------------------------------|
| 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 | 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 No information available.

Revision Date: 31-Aug-2018**Issuing Date:** 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

| | |
|---|---|
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | None known based on information supplied |
| Incompatible materials | None known based on information supplied |
| Hazardous decomposition products | Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur. |

11. TOXICOLOGICAL INFORMATION

Product Information

| | |
|--|--|
| Inhalation | No information available |
| Eye contact | No information available. |
| Skin contact | No information available. |
| Ingestion | Not classified Acute LD ₅₀ > 2000 mg/kg (OECD 423 method) |
| Skin corrosion/irritation | Not classified Non-irritant (OECD 404 method) |
| Serious eye damage/irritation | Not classified Minimal irritant to the eye (OECD 405 method) |
| Respiratory or skin sensitization | Not classified It is not a skin sensitizer (OECD 442B 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 |

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

12. ECOLOGICAL INFORMATION

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|--|--|--|----------------------------|--------------------------------------|
| Glycerol 56-81-5 | - | 51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static | - | 500: 24 h Daphnia magna mg/L EC50 |
| Triethylene glycol, monobutyl ether 143-22-6 | 500: 72 h Desmodium subspicatus mg/L EC50 | 2400: 96 h Pimephales promelas mg/L LC50 static 2400: 96 h Pimephales promelas mg/L LC50 2200 - 4600: 96 h Leuciscus idus mg/L LC50 static | - | 500: 48 h Daphnia magna mg/L EC50 |

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 |
| 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 of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

14. TRANSPORT INFORMATION

| | |
|-------------------|---------------|
| <u>DOT</u> | Not regulated |
| <u>TDG</u> | Not regulated |
| <u>MEX</u> | Not regulated |
| <u>ICAO (air)</u> | Not regulated |
| <u>IATA</u> | Not regulated |
| <u>IMDG</u> | Not regulated |
| <u>RID</u> | Not regulated |
| <u>ADR</u> | Not regulated |
| <u>ADN</u> | Not regulated |

15. REGULATORY INFORMATION

International Inventories

| | |
|----------|----------|
| TSCA | Complies |
| DSL/NDSL | Exempt |
| 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
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



SAFETY DATA SHEET

Revision Date: 31-Aug-2018

Issuing Date: 15-Oct-2015

Revision Number: 10

Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C, LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C, LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C, LC3339C, LC3617C, LC3619C, LC3717C, LC3719C, LC3919C

Safety data sheet number: BHC071

| | |
|-----------------------------------|----|
| 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 7732-18-5 | - | - | X |
| Glycerol 56-81-5 | X | X | 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

| | | | | |
|-------------|------------------|----------------|--------------------|--|
| NFPA | Health hazards 0 | Flammability 1 | Instability 0 | Section 9: Physical and chemical properties - |
| HMIS | Health hazards 0 | Flammability 1 | Physical hazards 0 | Personal protection X |

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Product Name: LC3017C, LC3019C, LC3029C, LC3037C, LC3038C, LC3039C,
LC3117C, LC3119C, LC3129C, LC3137C, LC3139C, LC3159C, LC3217C, LC3219C,
LC3229C, LC3237C, LC3239C, LC3259C, LC3317C, LC3319C, LC3329C, LC3337C,
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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