

Product Name: GCX-4C-1, GCX-4C20-1, GCX-4C50-1, GCX-4C70-1

**Revision Date:** 17-Dec-2018  
**Issuing Date:** 12-Oct-2018  
Revision Number: 1.1  
Safety data sheet number: GCX-4C-1

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

### 1.1. Product identifier

**Product Name** GCX-4C-1, GCX-4C20-1, GCX-4C50-1, GCX-4C70-1  
**Product Form** Mixture  
**Safety data sheet number** GCX-4C-1

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

**Relevant identified uses** Water based ink for inkjet printing machine  
**Uses advised against** No information available

### 1.3. Details of the supplier of the safety data sheet

#### Manufacturer

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

#### Importer

(USA)  
Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-877-276-8437  
(Europe)  
Brother Internationale Industriemaschinen GmbH  
Dusseldorfer Str. 7-9, D-46446, Emmerich, am Rhein, Germany  
Telephone (for information): +49-2-822-6090  
(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  
(New Zealand)  
BROTHER INTERNATIONAL (NZ) LTD.  
27 Matarawa Place, Tauriko Business Estate, Tauriko, Tauranga, New Zealand  
Telephone (for information): +64-7-543-5600  
(Singapore)  
BROTHER INTERNATIONAL SINGAPORE PTE. LTD.  
10 Eunos Road 8, #14-01/02 Singapore Post Centre, Singapore 408600, Singapore  
Telephone (for information): +65-6538-0311  
(Asia)  
BROTHER MACHINERY ASIA LTD.  
Unit 1207-11, 12/F, 9 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong  
Telephone (for information): +852-2777-0010

For further information, please contact

**E-mail address** sds.info@brother.co.jp

### 1.4. Emergency telephone number

**Emergency Telephone** CHEMTREC +1-703-527-3887 (International)  
CHEMTREC +61-290372994 (Australia)

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Antipoison Center: ORFILA +33-1-45-425-959 (for France only)

## Section 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

### 2.2. Label elements

#### Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

EUH208 - Contains 1,2-Benzisothiazolin-3-one May produce an allergic reaction.

EUH210 - Safety data sheet available on request

### 2.3. Other hazards

No information available

## Section 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical name	CAS No	EC No	EC Index No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Glycerol	56-81-5	200-289-5	-	15-20	Not classified	Not applicable
Ethylene glycol	107-21-1	203-473-3	603-027-00-1	15-20	Acute Tox. 4 (H302)	No data available
Cyan pigment	**	-	-	<10	Not classified	No data available
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	<0.03	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	Not applicable

Full text of H- and EUH-phrases: see section 16

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## Section 4: First aid measures

### 4.1. 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. 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.

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

Symptoms No information available

### 4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

## Section 5: Firefighting measures

### 5.1. Extinguishing media

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

Unsuitable extinguishing media No information available.

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

Specific hazards arising from the chemical No information available

### 5.3. Advice for firefighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## Section 6: Accidental release measures

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

For non-emergency personnel Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

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**6.3. 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.  
**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**6.4. Reference to other sections**

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

**Section 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling** Ensure adequate ventilation.  
**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Keep container tightly closed in a dry and well-ventilated place.

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

**Specific use(s)** Water based ink for inkjet printing machine

The information required is contained in this Material Safety Data Sheet.

**Section 8: Exposure controls and personal protection**

**8.1. Control parameters**

**Exposure Limits**

Chemical name	European Union	United Kingdom	France	Spain	Germany
Glycerol 56-81-5	-	TWA: 10 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>
Ethylene glycol 107-21-1	TWA 20 ppm TWA 52 mg/m <sup>3</sup> STEL 40 ppm STEL 104 mg/m <sup>3</sup> *	TWA: 10 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup> Sk*	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> *	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> via dérmica*	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> H*
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 20 mg/m <sup>3</sup>	-

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Ethylene glycol 107-21-1	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> pelle*	TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> Ceiling: 100 mg/m <sup>3</sup> P*	TWA: 52 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> STEL: 104 mg/m <sup>3</sup> H*	TWA: 20 ppm TWA: 50 mg/m <sup>3</sup> STEL: 40 ppm STEL: 100 mg/m <sup>3</sup> iho*	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> TWA: 10 mg/m <sup>3</sup> H*
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup>
Ethylene glycol 107-21-1	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> STEL 20 ppm STEL 52 mg/m <sup>3</sup> H*	TWA: 10 ppm TWA: 26 mg/m <sup>3</sup> STEL: 20 ppm STEL: 52 mg/m <sup>3</sup> H*	STEL: 50 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	TWA: 20 mg/m <sup>3</sup> TWA: 52 ppm TWA: 52 mg/m <sup>3</sup> STEL: 104 mg/m <sup>3</sup> STEL: 40 ppm H*	TWA: 10 mg/m <sup>3</sup> TWA: 20 ppm TWA: 52 mg/m <sup>3</sup> STEL: 40 ppm STEL: 104 mg/m <sup>3</sup> Sk*

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

## 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/face protection** Safety goggles.

**Hand protection** Protective gloves.

**Skin and body protection** Long sleeved clothing and long pants.

**Respiratory protection** In case of 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** blue  
**Odor** None.  
**Odor threshold** No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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<b>pH</b>	8.0 - 9.5	
<b>Melting point / freezing point</b>	0 °C	
<b>Boiling point / boiling range</b>	100 °C	
<b>Flash point</b>	No data available	None known
<b>Evaporation rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability limit:</b>	No data available	
<b>Lower flammability limit:</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>	1.1	(H <sub>2</sub> O=1)
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	<6.0 mPa s	@ 25°C
<b>Explosive properties</b>	No information available	No information available.
<b>Oxidizing properties</b>	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 under normal conditions.

**10.3. Possibility of hazardous reactions**

None under normal processing.

**10.4. Conditions to avoid**

None known based on information supplied

**10.5. Incompatible materials**

None known based on information supplied

**10.6. Hazardous decomposition products**

None known based on information supplied

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**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Product Information**

<b>Inhalation</b>	No information available
<b>Eye contact</b>	No information available
<b>Skin contact</b>	No information available
<b>Ingestion</b>	May be harmful if swallowed

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	2,748.10 mg/kg
<b>ATEmix (dermal)</b>	43,472.00 mg/kg

<b>Skin corrosion/irritation</b>	No information available
<b>Serious eye damage/eye irritation</b>	No information available
<b>Respiratory or skin sensitization</b>	No information available
<b>Germ cell mutagenicity</b>	No information available
<b>Carcinogenicity</b>	Printing inks: IARC Classification: Group 3 (Non-classified Human Carcinogen) Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA

**Section 12: Ecological information**

**12.1. Toxicity**

Contains 0 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	-	500: 24 h Daphnia magna mg/L EC50

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Ethylene glycol	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	46300: 48 h Daphnia magna mg/L EC50
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**12.2. Persistence and degradability**

No information available.

**12.3. Bioaccumulative potential**

There is no data for this product.

**Component Information**

Chemical name	Partition coefficient
Glycerol	-1.76
Ethylene glycol	-1.93
1,2-Benzisothiazolin-3-one	1.3

**12.4. Mobility in soil**

No information available.

**12.5. Results of PBT and vPvB assessment**

No information available.

**12.6. Other adverse effects**

No information available.

**Section 13: Disposal considerations**

**13.1. Waste treatment methods**

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



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## Section 14: Transport information

### IMDG

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

### RID

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

### ADR

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

### IATA

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

## Section 15: Regulatory information

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

#### EU-Regulations

No information available

#### National Regulations

### 15.2. Chemical safety assessment

No information available

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## Section 16: Other information

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

H411 - Toxic to aquatic life with long lasting effects

#### Legend

SVHC: Substances of Very High Concern for Authorization:

TWA

TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

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Trade secret

#### Key literature references and sources for data

No information available

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Revision Note Section 1

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

#### 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).