

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

1.1. Product identifier

Product Name	GCX-4W, GCX-4W50, GCX-4W70, GCX-4W02, GCX-4W20K, GCX-6W18L, GCX-6W09L, GCX-4W09L
Product Form	Mixture
Safety data sheet number	GCX-4W50

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

<u>Manufacturer</u>	Brother Industries, Ltd. 15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan Telephone (for information): +81-52-824-2735
<u>Importer</u>	(Europe) Brother Internationale Industriemaschinen GmbH Dusseldorfer Str. 7-9, D-46446, Emmerich, am Rhein, Germany Telephone (for information): +49-2-822-6090 (UK) MHM Direct Unit 9, The Stairway Langham Park Industrial Estate, Lows Ln, Stanton by Dale, Ilkeston DE7 4RJ, U.K. Telephone (for information): +44-115-944-2285 (Asia) BROTHER MACHINERY ASIA LTD. 17/F., Fugro House-KCC 2, No.1 Kwai On Road, Kwai Chung, New Territories, Hong Kong SAR Telephone (for information): +852-2777-0010

For further information, please contact

E-mail address	sds.info@brother.co.jp
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1.4. Emergency telephone number

Emergency Telephone	CHEMTREC +1-703-527-3887 (International) CHEMTREC +61-290372994 (Australia)
	For France only: Antipoison Center telephone number: ORFILA +33-1-45-425-959

Product Name: GCX-4W, GCX-4W50, GCX-4W70, GCX-4W02, GCX-4W20K, GCX-6W18L, GCX-6W09L, GCX-4W09L

Revision Date: 26-Jul-2023

Issuing Date: 01-Jun-2017

Revision Number: 9.1

Safety data sheet number: GCX-4W50

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

EUH211 - Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No	EC No	EC Index No	Weight-%	Specific concentration limit (SCL)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Water	7732-18-5	231-791-2	-	45-65	-	Not classified	Not applicable
Ethylene glycol	107-21-1	203-473-3	603-027-00-1	15-20	-	Acute Tox. 4 (H302)	Not applicable
Titanium dioxide	13463-67-7	236-675-5	022-006-00-2	10-15	-	Carc. 2 (H351i)	Not applicable
Triethanolamine	102-71-6	203-049-8	-	<0.5	-	Not classified	Not applicable
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	<0.03	Skin Sens. 1 :: C>=0.05%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)	Not applicable

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

Section 4: First aid measures

4.1. Description of first aid measures

General advice	If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. 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. If skin irritation persists, call a physician.
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

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

Note to physicians	Treat symptomatically.
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Section 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray or regular foam
Unsuitable extinguishing media	None

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon monoxide , Carbon dioxide (CO ₂) , Nitrogen oxides (NOx) , Oxides of sulfur
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5.3. Advice for firefighters

Special protective equipment for	Wear self contained breathing apparatus for fire fighting if necessary.
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Safety data sheet number: GCX-4W50

fire-fighters

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid contact with skin, eyes or clothing

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

6.3. 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.

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 Avoid contact with skin, eyes or clothing.

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

7.3. Specific end use(s)

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

Section 8: Exposure controls and personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Ethylene glycol 107-21-1	TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ *	TWA: 10 mg/m ³ TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ STEL: 30 mg/m ³ Sk*	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ *	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ vía dérmica*	TWA: 10 ppm TWA: 26 mg/m ³ H*
Titanium dioxide 13463-67-7	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 1.25 mg/m ³ TWA: 10 mg/m ³
Triethanolamine 102-71-6	-	-	-	TWA: 5 mg/m ³	TWA: 1 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Ethylene glycol 107-21-1	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ pelle*	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 104 mg/m ³ Ceiling: 100 mg/m ³ P*	TWA: 52 mg/m ³ TWA: 10 mg/m ³ STEL: 104 mg/m ³ H*	TWA: 20 ppm TWA: 50 mg/m ³ STEL: 40 ppm STEL: 100 mg/m ³ iho*	TWA: 10 ppm TWA: 26 mg/m ³ TWA: 10 mg/m ³ H*
Titanium dioxide 13463-67-7	-	TWA: 10 mg/m ³	-	-	TWA: 6 mg/m ³
Triethanolamine 102-71-6	-	TWA: 5 mg/m ³	-	TWA: 5 mg/m ³	TWA: 0.5 ppm TWA: 3.1 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Ethylene glycol 107-21-1	TWA: 10 ppm TWA: 26 mg/m ³ STEL 20 ppm STEL 52 mg/m ³ H*	TWA: 10 ppm TWA: 26 mg/m ³ STEL: 20 ppm STEL: 52 mg/m ³ H*	STEL: 50 mg/m ³ TWA: 15 mg/m ³	TWA: 20 ppm TWA: 52 mg/m ³ STEL: 104 mg/m ³ STEL: 40 ppm H*	TWA: 10 mg/m ³ TWA: 20 ppm TWA: 52 mg/m ³ STEL: 40 ppm STEL: 30 mg/m ³ STEL: 104 mg/m ³ Sk*
Titanium dioxide 13463-67-7	TWA: 5 mg/m ³ STEL 10 mg/m ³	TWA: 3 mg/m ³	STEL: 30 mg/m ³ TWA: 10 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 30 mg/m ³ STEL: 12 mg/m ³
Triethanolamine 102-71-6	TWA: 0.8 ppm TWA: 5 mg/m ³ STEL 1.6 ppm STEL 10 mg/m ³	TWA: 5 mg/m ³ STEL: 5 mg/m ³	-	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³ STEL: 15 mg/m ³

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

Product Name: GCX-4W, GCX-4W50, GCX-4W70, GCX-4W02, GCX-4W20K, GCX-6W18L, GCX-6W09L, GCX-4W09L

Revision Date: 26-Jul-2023

Issuing Date: 01-Jun-2017

Revision Number: 9.1

Safety data sheet number: GCX-4W50

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	If there is a risk of contact:, Apron, Boots
Respiratory protection	Use appropriate respiratory protection.
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	white
Odor	None
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	8 - 9	
Melting point / freezing point	No data available °C	
Boiling point / boiling range	100 °C	
Flash point	No data available	None known
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	1.2 @ 20°C	
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	
Dynamic viscosity	No data available	
Explosive properties	No information available	

Product Name: GCX-4W, GCX-4W50, GCX-4W70, GCX-4W02, GCX-4W20K, GCX-6W18L, GCX-6W09L, GCX-4W09L

Revision Date: 26-Jul-2023

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Revision Number: 9.1

Safety data sheet number: GCX-4W50

Oxidizing properties No information available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No information available

9.2.2. Other safety characteristics

No information available

Section 10: Stability and reactivity

10.1. Reactivity

None.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Keep away from heat. Keep away from water or moist air.

10.5. Incompatible materials

Acids, Bases, Oxidizing agent, Reducing agent

10.6. Hazardous decomposition products

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

Section 11: Toxicological information

11.1. Information on toxicological effects

Product Information

Inhalation No information available

Eye contact No information available

Skin contact: No information available

Ingestion May be harmful if swallowed

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

ATEmix (oral) 2,428.20 mg/kg
ATEmix (dermal) 45,470.53 mg/kg

Skin corrosion/irritation No information available

Serious eye damage/eye irritation No information available

Respiratory or skin sensitization No information available

Germ cell mutagenicity No information available

Carcinogenicity Printing inks: IARC Classification: Group 3 (Non-classified Human Carcinogen)
Titanium dioxide: IARC Classification: Group 2B (Possible human carcinogen)

Other 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 Over exposure may cause respiratory irritation.

11.2. Information on other hazards

No information available

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity Based on available data, the classification criteria are not met.

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
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Product Name: GCX-4W, GCX-4W50, GCX-4W70, GCX-4W02, GCX-4W20K, GCX-6W18L, GCX-6W09L, GCX-4W09L

Safety data sheet number: GCX-4W50

Ethylene glycol	EC50: 6500 - 13000mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 14 - 18mL/L (96h, Oncorhynchus mykiss) LC50: 40000 - 60000mg/L (96h, Pimephales promelas) LC50: =16000mg/L (96h, Poecilia reticulata) LC50: =27540mg/L (96h, Lepomis macrochirus) LC50: =40761mg/L (96h, Oncorhynchus mykiss) LC50: =41000mg/L (96h, Oncorhynchus mykiss)	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	EC50: =46300mg/L (48h, Daphnia magna)
Triethanolamine	EC50: =169mg/L (96h, Desmodemus subspicatus) EC50: =216mg/L (72h, Desmodemus subspicatus)	LC50: 10600 - 13000mg/L (96h, Pimephales promelas) LC50: 450 - 1000mg/L (96h, Lepomis macrochirus) LC50: >1000mg/L (96h, Pimephales promelas)	-	-

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
Ethylene glycol	-1.93
Triethanolamine	-2.53
1,2-Benzisothiazolin-3-one	1.3

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. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Product Name: GCX-4W, GCX-4W50, GCX-4W70, GCX-4W02, GCX-4W20K, GCX-6W18L, GCX-6W09L, GCX-4W09L

Revision Date: 26-Jul-2023

Issuing Date: 01-Jun-2017

Revision Number: 9.1

Safety data sheet number: GCX-4W50

Dispose in accordance with federal, state and local regulations.

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	Not applicable

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

* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XVII.

* Contains no substance listed in REACH Regulation (EC) No.1907/2006 Candidate List for Authorization.

* Contains no substances listed in REACH Regulation (EC) No.1907/2006 ANNEX XIV.

Product Name: GCX-4W, GCX-4W50, GCX-4W70, GCX-4W02, GCX-4W20K, GCX-6W18L, GCX-6W09L, GCX-4W09L

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National Regulations

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

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

Legend

SVHC: Substances of Very High Concern for Authorization:

TWA

TWA (time-weighted average)

STEL (Short Term Exposure Limit)

**

Key literature references and sources for data

No information available

Revision Date 06-Jan-2022

Issuing Date 01-Jun-2017

Revision Note

SDS sections updated : 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).