

Product name: GCX-4P05,GCX-4P20, GCX-4P2H

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

### 1.1. Product identifier

Product form : Mixture  
Product name : GCX-4P05,GCX-4P20, GCX-4P2H

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Pretreatment agent

#### 1.2.2. Uses advised against

No additional 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

Importer (Europe) Brother International Europe Ltd.  
Brother House, 1 Tame Street, Guide Bridge, Audenshaw, Manchester M34 5JE, UK  
Telephone (for information): +44-161-330-6531

Importer (Australia) Brother International (Aust.) Pty. Ltd. ACN 001 393 835  
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia  
Telephone (for information): +61-2-9887-4344

Importer (New Zealand) BROTHER INTERNATIONAL (NZ) LTD.  
27 Matarawa Place, Taur ko Business Estate, Tauriko, Tauranga, New Zealand  
Telephone (for information): +64-7-543-5600

Importer (Singapore) BROTHER INTERNATIONAL SINGAPORE PTE. LTD.  
152 Beach Road, #25-01/04 Gateway East, Singapore 189721, Singapore  
Telephone (for information): +65-6538-0311

Importer (Asia) BROTHER MACHINERY ASIA LTD.  
12/F, PeakCastle, 476 Castle Peak Road, Kowloon, Hong Kong  
Telephone (for information): +852-2777-0010

Importer (China) BROTHER MACHINERY SHANGHAI LTD.  
Room B, 3/F., No.567, West Tianshan Rd., ChangNing District, Shanghai 200335, P.R.China  
Telephone (for information): +86-21-2225-6666

E-mail Address sds.info@brother.co.jp

### 1.4. Emergency telephone number

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

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

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302  
Skin Sens. 1 H317  
Eye Irrit. 2 H319

Full text of hazard classes and H-statements : see section 16

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## 2.2. Label elements

### Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazardous ingredients :

Diethylene glycol; Calcium Nitrate; Calcium chloride; 1,2-benzisothiazol-3(2H)-one

Hazard statements (CLP) :

H302 - Harmful if swallowed  
H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation

Precautionary statements (CLP) :

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
P337+P313- If eye irritation persists: Get medical advice/ attention.

## 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH, annex XIII

## SECTION 3: Composition/Information on ingredients

### 3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Diethylene glycol	(CAS No) 111-46-6 (EC no) 203-872-2 (EC index no) 603-140-00-6	30 - 40	Acute Tox. 4 (Oral), H302
Calcium Nitrate	(CAS No) 10124-37-5 (EC no) 233-332-1	10 - 20	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
Calcium chloride	(CAS No) 10043-52-4 (EC no) 233-140-8 (EC index no) 017-013-00-2	1 - 5	Eye Irrit. 2, H319
1,2-benzisothiazol-3(2H)-one	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6	< 1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: If symptoms persist, obtain medical attention.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, obtain medical attention.
First-aid measures after skin contact	: Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes. Get immediate medical advice/attention.
First-aid measures after ingestion	: Do NOT induce vomiting. Wash out mouth with water and give 100-200 ml of water to drink. Get medical advice/attention if you feel unwell.

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

Symptoms/injuries after inhalation	: May be harmful if inhaled.
Symptoms/injuries after skin contact	: May cause an allergic skin reaction.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: May be harmful if swallowed.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Extinguish preferably with dry chemical, carbon dioxide, water mist, foam.

Unsuitable extinguishing media : None.

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

Fire hazard : Not flammable.

Hazardous decomposition products in case of fire : Fire may produce irritating, corrosive and/or toxic gases. Carbon monoxide. Carbon dioxide. Nitrogen oxides.

#### 5.3. Advice for firefighters

Protection during firefighting : Self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions.

### SECTION 6: Accidental release measures

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

General measures : Avoid contact with eyes, skin and clothing. Avoid inhalation of vapors.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear personal protective equipment.

Emergency procedures : Ensure adequate ventilation. Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection.

#### 6.2. Environmental precautions

Avoid release to the environment. 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 cleaning up : Wipe up with absorbent material (for example cloth). Then wash with water and detergent.

#### 6.4. Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing. Avoid inhaling vapour and/or mists. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Avoid leaking, rolling or dropping. Keep away from oxidizing agents.

Storage temperature :  $\geq 0\text{ }^{\circ}\text{C}$

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

Pretreatment agent.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Diethylene glycol (111-46-6)		
Austria	Local name	Diethylenglykol
Austria	MAK (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	176 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	40 ppm
Denmark	Local name	Diethylenglykol

Diethylene glycol (111-46-6)		
Denmark	Limit (long-term) (mg/m <sup>3</sup> )	11 mg/m <sup>3</sup>
Denmark	Limit (long-term) (ppm)	2.5 ppm
Germany	Local name	2,2'-Oxydiethanol
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	44 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	Remark (TRGS 900)	DFG, Y
Ireland	Local name	Diethylene glycol
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	23 ppm
Latvia	Local name	Dietilēnglikols (2,2'oksibisetanols, 2,2'dihidroksidietilēteris)
Latvia	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Lithuania	Local name	2,2-oksidiētanolis (dietilēngl kolis, diglikolis)
Lithuania	IPRV (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Lithuania	Remark (LT)	O
Poland	Local name	2,2'-Oksydietanol (gliokl dwuetylenowy) aerozol
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Romania	Local name	Dietilenglicol
Romania	OEL TWA (mg/m <sup>3</sup> )	500 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	115 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	800 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	184 ppm
Sweden	Local name	Diethylene glycol
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	45 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	90 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
United Kingdom	Local name	2,2'-Oxydiethanol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	101 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	23 ppm

## 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:

Hand protection

: protective gloves.

Eye protection

: Safety goggles.

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.

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**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state	: Liquid
Appearance	: Opaque
Color	: White
Odor	: slight
Odor threshold	: No information available
pH	: 5 - 7
Relative evaporation rate (butyl acetate=1)	: No information available
Melting point	: 0 °C
Freezing point	: No information available
Boiling point	: 100 °C
Flash point	: Not applicable
Auto-ignition temperature	: No information available
Decomposition temperature	: No information available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No information available
Relative vapor density at 20 °C	: No information available
Relative density	: 1.1-1.3(25°C)
Solubility	: Water: Misc ble
Log Pow	: No information available
Log Kow	: No information available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: No information available
Explosion limits	: No information available

**9.2. Other information**

No additional 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**

No information available.

**10.4. Conditions to avoid**

Keep out of direct sunlight.

**10.5. Incompatible materials**

Strong acids. Strong alkalis.

**10.6. Hazardous decomposition products**

Carbon monoxide. Carbon dioxide. Nitrogen oxides.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Oral: Harmful if swallowed.
ATE CLP (oral)	1249.000 mg/kg body weight
Skin corrosion/irritation	: Not classified Based on available data, the classification criteria are not met pH: 5 - 7
Serious eye damage/irritation	: Causes serious eye irritation pH: 5 - 7
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
Reproductive toxicity	: No information available
Specific target organ toxicity (single exposure)	: Not classified No information available
Specific target organ toxicity (repeated exposure)	: No information available Based on available data, the classification criteria are not met
Aspiration hazard	: No information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Calcium chloride (10043-52-4)	
LC50 fish	10650 mg/l 96 h - Lepomis macrochirus
EC50 Daphnia	52 mg/l 48 h - Daphnia magna
Diethylene glycol (111-46-6)	
LC50 fish	75200 mg/kg 96 - Pimephales promelas
EC50 Daphnia	84000 mg/l 48 h - Daphnia magna

### 12.2. Persistence and degradability

Persistence and degradability No information available.

### 12.3. Bioaccumulative potential

Log Pow No information available  
Log Kow No information available  
Bioaccumulative potential Low bioaccumulation potential.

Diethylene glycol (111-46-6)	
Log Pow	-1.98

### 12.4. Mobility in soil

Ecology - soil Low mobility (soil).

### 12.5. Results of PBT and vPvB assessment

This substance/mixture does not meet the PBT criteria of REACH, annex XIII  
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII  
Results of PBT assessment Not available

### 12.6. Other adverse effects

Other adverse effects : No information available.

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**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Waste disposal recommendations : Dispose in accordance with federal, state and local regulations.

**SECTION 14: Transport information**

In accordance with ADR / IMDG / IATA / DOT / UN

**14.1. UN number**

Not regulated for transport

**14.2. UN proper shipping name**

Proper Shipping Name (ADR/RID) : None

Proper Shipping Name (IATA) : None

Proper Shipping Name (IMDG) : None

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Other information : None

**14.6. Special precautions for user**

Special transport precautions : None

**14.6.1. Overland transport**

No additional information available

**14.6.2. Transport by sea**

No additional information available

**14.6.3. Air transport**

No additional information available

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

IBC code : Not applicable

**SECTION 15: Regulatory information**

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

**15.1.1. EU-Regulations**

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Diethylene glycol
3(b) Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	GCX-4P05,GCX-4P20 - Diethylene glycol

Contains no REACH candidate substance

Contains no REACH Annex XIV substances.

**15.1.2. National regulations**

Regional legislation : USA: All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.

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## 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Indication of changes:

Classification (CLP). SECTION 2. SECTION 3. SECTION 8.

Data sources : U.S. 29CFR Part 1910  
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices  
IARC Monographs on the Evaluation Carcinogenic Risks to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens.

Abbreviations and acronyms : IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods Code)  
IOELV (Indicative Occupational Exposure Limit)  
REACH (Registration, Evaluation and Authorisation of CHemicals)  
WHMIS (Workplace Hazardous Material Information System (Canada))  
ACGIH (American Conference of Government Industrial Hygienists)  
DOT (Department Of Transportation (US))  
ICAO (International Civil Aviation Organization)  
NOHSC (National Occupational Health and Safety Commission (Australia))  
NTP (National Toxicology Program) (US)  
OSHA (Occupational Safety and Health Administration) (US)  
PEL (Permissible Exposure Limit)  
STEL (Short Term Exposure Limit)  
TLV (Threshold Limit Value) (ACGIH)  
TSCA (Toxic Substances Control Act) (US)  
TWA (Time Weighted Average).

Other information : The information only relates to this specific 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).

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H400	Very toxic to aquatic life
EUH208	Contains . May produce an allergic reaction