

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

### 1.1. Product identifier

Product form : Mixture  
Product name : GCX-4K20, GCX-4K50, GCX-4K70, GCX-4K20B, GCX-4K10K

### 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 : Water based inks

#### 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]

Repr. 1B H360

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

## 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) :

Danger

Hazardous ingredients :

N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one

Hazard statements (CLP) :

H360 - May damage fertility or the unborn child

Precautionary statements (CLP) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P280 - Wear eye protection, protective gloves  
P308+P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up

EUH phrases :

EUH208 - Contains 1,2-benzisothiazol-3(2H)-one(2634-33-5). May produce an allergic reaction

## 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]
Ethylene Glycol	(CAS No) 107-21-1 (EC no) 203-473-3 (EC index no) 603-027-00-1	13 - 14	Acute Tox. 4 (Oral), H302
Diethylene glycol	(CAS No) 111-46-6 (EC no) 203-872-2 (EC index no) 603-140-00-6	13 - 14	Acute Tox. 4 (Oral), H302
Urethane resin		7 - 8.5	Not classified
Carbon Black	(CAS No) 1333-86-4 (EC no) 215-609-9	3 - 4	Not classified
N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one	(CAS No) 2687-91-4 (EC no) 220-250-6 (EC index no) 616-208-00-5	< 2.1	Repr. 1B, H360D
1,2-benzisothiazol-3(2H)-one	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6	< 0.03	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 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. If eye irritation persists: Get 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 produce an allergic reaction.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: Ingestion may cause irritation of the gastrointestinal tract.

### 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	: Carbon dioxide. Carbon monoxide.

### 5.3. Advice for firefighters

Protection during firefighting	: Self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
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## 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.
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#### 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.
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### 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). Wash with water to remove remaining traces of ink.
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### 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.
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GCX-4K20B, GCX-4K10K

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

Storage conditions : Keep container tightly closed. Do not freeze.  
Storage temperature : 0 - 50 °C

## 7.3. Specific end use(s)

Water based inks.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Ethylene Glycol (107-21-1)		
EU	Local name	Ethylene glycol
EU	IOELV TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	40 ppm
EU	Notes	Skin
Austria	Local name	Ethylenglykol
Austria	MAK (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Austria	MAK (ppm)	10 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	20 ppm
Austria	Remark (AT)	H
Belgium	Local name	Ethylèneglycol (en aérosol)
Belgium	Limit value (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	20 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Belgium	Short time value (ppm)	40 ppm
Belgium	Remark (BE)	D, M
Bulgaria	Local name	Етиленгликол*
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Czech Republic	Local name	Ethylenglykol
Czech Republic	Exposure limits (PEL) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Czech Republic	Exposure limits (PEL) (ppm)	20 ppm
Czech Republic	Exposure limits (NPK-P) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Czech Republic	Exposure limits (NPK-P) (ppm)	39 ppm
Czech Republic	Remark (CZ)	D
Finland	Local name	1,2-Etaanidioli
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	20 ppm
Finland	HTP-arvo (15 min)	100 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	40 ppm
France	Local name	Ethylèneglycol (vapeur)
France	VME (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
France	VME (ppm)	20 ppm
France	VLE (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
France	VLE (ppm)	40 ppm
Germany	Local name	Ethandiol
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm
Germany	Remark (TRGS 900)	DFG,EU,H,Y
Hungary	Local name	ETILÉNGLIKOL

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Ethylene Glycol (107-21-1)		
Hungary	Exposure Limit Value	52 mg/m <sup>3</sup>
Hungary	CK-érték	104 mg/m <sup>3</sup>
Hungary	Megjegyzések (HU)	b, i; l.
Italy	Local name	Etilen glicol
Italy	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	20 ppm
Italy	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	40 ppm
Latvia	Local name	Etilēngl kols, (1,2-etāndiols)
Latvia	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	20 ppm
Lithuania	Local name	Etilengli kolis (1,2-etandiolis, gl kolis)
Lithuania	IPRV (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Lithuania	Remark (LT)	O
Poland	Local name	Glikol etylenowy
Poland	NDS (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Poland	NDSCh (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Portugal	Local name	Etilenoglicol
Portugal	OEL - Ceilings (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Romania	Local name	Etilenglicol
Romania	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	20 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	40 ppm
Spain	Local name	Etilenglicol
Spain	VLA-ED (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Spain	VLA-ED (ppm)	20 ppm
Spain	VLA-EC (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	40 ppm
Spain	Notes	Vía dérmica: (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante. Para más información véase el Apartado 5 de este documento.), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país.)
Sweden	Local name	Ethylene glycol
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>

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<b>Ethylene Glycol (107-21-1)</b>		
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
United Kingdom	Local name	Ethane-1,2-diol
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> particulate 52 mg/m <sup>3</sup> vapour
United Kingdom	WEL TWA (ppm)	20 ppm vapour
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> vapour
United Kingdom	WEL STEL (ppm)	40 ppm vapour
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
USA - ACGIH	Local name	Ethylene glycol
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
USA - ACGIH	Remark (ACGIH)	URT & eye irr
<b>Diethylene glycol (111-46-6)</b>		
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
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 (glikol 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>

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<b>Diethylene glycol (111-46-6)</b>		
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
<b>Carbon Black (1333-86-4)</b>		
Belgium	Local name	Carbone (noir de)
Belgium	Limit value (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Denmark	Local name	Carbon black
Denmark	Limit (long-term) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Denmark	Anmærkninger (DK)	K
Finland	Local name	Nokimusta
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min)	7 mg/m <sup>3</sup>
France	Local name	Noir de carbone
France	VME (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Ireland	Local name	Carbon black
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Portugal	Local name	Carbono, preto (Negro de fumo)
Portugal	OEL TWA (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
Spain	Local name	Negro de humo
Spain	VLA-ED (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
United Kingdom	Local name	Carbon black
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	7 mg/m <sup>3</sup>
Norway	Local name	Carbon Black (lampesot)
Norway	TWA (AN) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>
USA - ACGIH	Local name	Carbon black
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
USA - ACGIH	Remark (ACGIH)	Bronchitis
USA - OSHA	Local name	Carbon black
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	3.5 mg/m <sup>3</sup>

## 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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SDS No:GCX-4K20-EUUSOTHER**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state	: Liquid
Color	: Black
Odor	: None
Odor threshold	: No information available
pH	: 8 - 9.5
Relative evaporation rate (butyl acetate=1)	: No information available
Melting point	: 0 °C
Freezing point	: No information available
Boiling point	: 100 °C
Flash point	: Does not flash at 93.3°C or lower (closed cup)
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 @ 20°C
Solubility	: Water: Misc ble
Log Pow	: No information available
Log Kow	: No information available
Viscosity, kinematic	: < 6 mPa·s @ 25°C
Viscosity, dynamic	: No information 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**

Avoid temperature above: 80°C. Do not freeze.

**10.5. Incompatible materials**

Strong acids. Strong alkalis.

**10.6. Hazardous decomposition products**

Carbon monoxide. Carbon dioxide. Nitrogen oxides.



**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

Acute toxicity	: Not classified
ATE CLP (oral)	21739.000 mg/kg body weight
Skin corrosion/irritation	: Not classified Not irritating to skin (OECD 404 method) (OECD 431 method) pH: 8 - 9.5
Serious eye damage/irritation	: Not classified (OECD 405 method) pH: 8 - 9.5
Respiratory or skin sensitization	: Not classified. (OECD 429 method) Contains 1,2-Benzisothiazol-3(2H)-one. May produce an allergic reaction
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Carbon Black: In 1996, the IARC re-evaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals, for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors Other ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA
Reproductive toxicity	: May damage fertility or the unborn child.
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

**SECTION 12: Ecological information**

**12.1. Toxicity**

<b>Ethylene Glycol (107-21-1)</b>	
LC50 fish	> 41000 mg/l Oncorhynchus mykiss
EC50 Daphnia	> 46300 mg/l Daphnia magna
EC50 96h algae [mg/ ] (1)	6500 - 13000 mg/l Pseudokirchneriella subcapitata
<b>Diethylene glycol (111-46-6)</b>	
LC50 fish	75200 mg/kg 96 - Pimephales promelas
EC50 Daphnia	84000 mg/l 48 h - Daphnia magna
<b>Carbon Black (1333-86-4)</b>	
EC50 Daphnia	> 5600 mg/l 24 h (Daphnia magna)

**12.2. Persistence and degradability**

Persistence and degradability No information available.

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## 12.3. Bioaccumulative potential

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

Ethylene Glycol (107-21-1)	
Log Pow	-1.93

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.

## 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

Product name: GCX-4K20, GCX-4K50, GCX-4K70,  
GCX-4K20B, GCX-4K10K

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## 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	Ethylene Glycol - GCX-4K20, GCX-4K50, GCX-4K70
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	Ethylene Glycol - GCX-4K20, GCX-4K50, GCX-4K70
30. Substances which appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 classified as Toxic to Reproduction category 1A or 1B (Table 3.1) or Toxic to Reproduction category 1 or 2 (Table 3.2) and listed as follows: Reproductive toxicant category 1A adverse effects on sexual function and fertility or on development (Table 3.1) or Reproductive toxicant category 1 with R60 (May impair fertility) or R61 (May cause harm to the unborn child) (Table 3.2) listed in Appendix 5 Reproductive toxicant category 1B adverse effects on sexual function and fertility or on development (Table 3.1) or Reproductive toxicant category 2 with R60 (May impair fertility) or R61 (May cause harm to the unborn child) (Table 3.2) listed in Appendix 6	N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one

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.  
Canada: WHMIS: Not applicable. (Manufactured article).

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

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 of the Carcinogenic Risk of Chemicals to Humans World Health Organization  
EU Directive 91/322/EEC and 2000/39/EC  
NTP 11th Report on Carcinogens.

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GCX-4K20B, GCX-4K10K

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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
Repr. 1B	Reproductive toxicity Category 1B
Repr. 1B	Reproductive toxicity Category 1B
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
H360	May damage fertility or the unborn child
H360D	May damage the unborn child
H400	Very toxic to aquatic life
EUH208	Contains . May produce an allergic reaction