

# CR5 Guthega Cyan

## Safety Data Sheet

according to Regulation (EC) No. 453/2010

Date of issue: 23/01/2014

Version: 1.0



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

#### 1.1. Product identifier

Product form : Mixture  
Product name. : CR5 Guthega Cyan

#### 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 : Inkjet printing

##### 1.2.2. Uses advised against

No additional information available

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

Memjet Ltd. (formerly Memjet Operations, Ltd.)  
61-62 Fitzwilliam Lane  
Dublin 2 - Ireland  
T +1-858-798-3000 - F +1-858-798-3044  
[msds@memjet.com](mailto:msds@memjet.com) - [www.memjet.com](http://www.memjet.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC, U.S.: 1-800-424-9300  
International: +1-703-527-3887 Hours of Operation: 24/7

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Eye Dam. 1 H318

STOT RE 2 H373

Full text of H-phrases: see section 16

##### Classification according to Directive 67/548/EEC or 1999/45/EC

Xi; R36

Full text of R-phrases: see section 16

##### Adverse physicochemical, human health and environmental effects

Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

#### 2.2. Label elements

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



Hazard pictograms (CLP) :

GHS05

GHS08

Signal word (CLP) :

Danger.

Hazardous ingredients :

2-pyrrolidone, 2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate, MOPS, 1,2-benzisothiazolone, Ethylene glycol, Copper, 3-[(3,4-dicyanophenyl)sulfonyl]-N-(2-hydroxypropyl)-1-propanesulfonamide-lithium 3-[(3,4-dicyanophenyl)sulfonyl]-1-propanesulfonate reaction products complexes

Hazard statements (CLP) :

H318 - Causes serious eye damage  
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (CLP) :

P260 - Do not breathe mist/vapours/spray  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/physician  
P314 - Get medical advice/attention if you feel unwell  
P501 - Dispose of contents/container in accordance with local and national regulations

EUH phrases :

EUH208 - Contains 1,2-benzisothiazolone(2634-33-5). May produce an allergic reaction

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### 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

### 3.1. Substances

Not applicable

### 3.2. Mixture

Only components with health hazards and/or Exposure Limit values are shown.

Name	Product identifier	%	Classification according to Directive 67/548/EEC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Water	(CAS No) 7732-18-5 (EC no) 231-791-2	71.65	Not classified	Not classified
Ethylene glycol	(CAS No) 107-21-1 (EC no) 203-473-3 (EC index no) 603-027-00-1	10	Xn; R22	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
2-pyrrolidone	(CAS No) 616-45-5 (EC no) 210-483-1	9	Xi; R36	Eye Irrit. 2, H319
Copper, 3-[(3,4-dicyanophenyl)sulfonyl]-N-(2-hydroxypropyl)-1-propanesulfonamide-lithium 3-[(3,4-dicyanophenyl)sulfonyl]-1-propanesulfonate reaction products complexes	(CAS No) 569316-88-7	3.75	Xi; R41	Eye Dam. 1, H318
Glycerol	(CAS No) 56-81-5 (EC no) 200-289-5	3	Not classified	Not classified
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate	(CAS No) 9014-85-1 (EC no) 500-022-5	1	Xi; R41 Xi; R38	Eye Dam. 1, H318 Aquatic Chronic 3, H412
MOPS	(CAS No) 1132-61-2 (EC no) 214-478-5	0.2	Xi; R36/38	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
1,2-benzisothiazolone	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6	0.04	Xn; R22 Xi; R41 Xi; R38 R43 N; R50	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400
Name	Product identifier		Specific concentration limits	
1,2-benzisothiazolone	(CAS No) 2634-33-5 (EC no) 220-120-9 (EC index no) 613-088-00-6		(0.05 =< C) R43 (0.05 =< C) Skin Sens. 1, H317	

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting unless directed to do so by medical personnel.

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

- Symptoms/injuries : May cause damage to organs (through prolonged or repeated exposure.).
- Symptoms/injuries after inhalation : Inhalation may cause: irritation, coughing, shortness of breath.
- Symptoms/injuries after skin contact : No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin contact.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

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

All treatments should be based on observed signs and symptoms of distress in the patient.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>), powder, alcohol-resistant foam, water fog. Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

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

- Fire hazard : No specific fire or explosion hazard.  
Explosion hazard : Product is not explosive.

### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use extinguishing media appropriate for surrounding fire.  
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flame resistant/retardant clothing. Use self-contained breathing apparatus. EN 469.

## SECTION 6: Accidental release measures

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

- General measures : Avoid all eyes and skin contact and do not breathe vapour and mist.

#### 6.1.1. For non-emergency personnel

- Protective equipment : Avoid contact with skin and eyes. Wear suitable gloves. butyl rubber gloves. natural rubber gloves.  
Emergency procedures : Evacuate unnecessary personnel. Stop leak without risks if possible.

#### 6.1.2. For emergency responders

- Protective equipment : Avoid all eyes and skin contact and do not breathe vapour and mist. Wear suitable protective clothing and gloves. butyl rubber. Use eye protection to EN 166, designed to protect against liquid splashes.  
Emergency procedures : Stop leak if safe to do so. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

### 6.2. Environmental precautions

- Do not discharge into drains or the environment.

### 6.3. Methods and material for containment and cleaning up

- For containment : Do not allow minor leaks or spills to accumulate on walking surfaces. Absorb and/or contain spill with inert material, then place in suitable container.  
Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

### 6.4. Reference to other sections

- Section 7: safe handling. Section 8: personal protective equipment. Section 13: disposal information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid all eyes and skin contact and do not breathe vapour and mist. Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Emptied container retains vapor and product residue.  
Hygiene measures : Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

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

- Storage conditions : Store in original container. Keep container tightly closed and in a well-ventilated place. Protect against heat and light. Store in an area with secondary containment.

### 7.3. Specific end use(s)

- Inkjet printing.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Ethylene glycol (107-21-1)		
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
Austria	MAK (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup> (H)
Austria	MAK (ppm)	10 ppm (H)
Austria	MAK Short time value (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> max. 8x5 min./Schicht (gemessen als Momentanwert), (H)
Austria	MAK Short time value (ppm)	20 ppm max. 8x5 min./Schicht (gemessen als Momentanwert), (H)
Belgium	Limit value (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>

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Ethylene glycol (107-21-1)		
Belgium	Limit value (ppm)	20 ppm
Belgium	Remark*	D, M "(en aérosol)"
France	VLE (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup>
France	VLE (ppm)	40 ppm
France	VME (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
France	VME (ppm)	20 ppm
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)	H
Italy - Portugal - USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Italy - Portugal - USA ACGIH	ACGIH Ceiling (ppm)	39.4 ppm
Italy - Portugal - USA ACGIH	Remark (ACGIH)	H
USA NIOSH	NIOSH REL (ceiling) (ppm)	50 ppm
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, VLI
Switzerland	VLE (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	20 ppm
Switzerland	VME (mg/m <sup>3</sup> )	26 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10 ppm
The Netherlands	MAC TGG 8H (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (vapour) 10 mg/m <sup>3</sup> (particulate)
The Netherlands	MAC TGG 15MIN (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (vapour)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (vapour, Sk) 10 mg/m <sup>3</sup> (Sk)
United Kingdom	WEL TWA (ppm)	20 ppm (vapour, Sk)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (vapour, Sk)
United Kingdom	WEL STEL (ppm)	40 ppm (vapour, Sk)
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (ppm)	19.7 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	39.4 ppm
Czech Republic	Remark (CZ)	D
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (forstøvet) 26 mg/m <sup>3</sup> H
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm H
Denmark	Grænseværdie (kortvarig) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup> (forstøvet) 52 mg/m <sup>3</sup> H
Denmark	Grænseværdie (kortvarig) (ppm)	20 ppm H
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
Finland	Huomautus (FI)	iho
Hungary	AK-érték	52 mg/m <sup>3</sup>
Hungary	CK-érték	104 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> particulate; Sk, IOELV 52 mg/m <sup>3</sup> vapour; Sk, IOELV
Ireland	OEL (8 hours ref) (ppm)	20 ppm vapour; Sk, IOELV
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> vapour; Sk, IOELV
Ireland	OEL (15 min ref) (ppm)	40 ppm vapour; Sk, IOELV
Lithuania	IPRV (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm

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Ethylene glycol (107-21-1)		
Lithuania	TPRV (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Lithuania	Remark (LT)	O; Ði RV taikoma bendrai garø ir aerozolio koncentracijai.
Norway	Gjennomsnittsverdier (AN) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (Støv, H 1)
Norway	Gjennomsnittsverdier (Takverdi) (ppm)	25 ppm (Damp, H)
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>
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	20 ppm
Slovakia	Upozomenie (SK)	(K)
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
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
Sweden	Anmärkning (SE)	H 27
Canada (Quebec)	PLAFOND (mg/m <sup>3</sup> )	127 mg/m <sup>3</sup>
Canada (Quebec)	PLAFOND (ppm)	50 ppm
Australia	TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup> (vapour) 10 mg/m <sup>3</sup> (particulate)
Australia	TWA (ppm)	20 ppm (vapour)
Australia	STEL (mg/m <sup>3</sup> )	104 mg/m <sup>3</sup> (vapour)
Australia	STEL (ppm)	40 ppm (vapour)

Ethylene glycol (107-21-1)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	106 mg/kg bodyweight/day
Long-term - local effects, inhalation	35 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Long-term - systemic effects, dermal	53 mg/kg bodyweight/day
Long-term - local effects, inhalation	7 mg/m <sup>3</sup>
PNEC (Water)	
PNEC aqua (freshwater)	10 mg/l
PNEC aqua (marine water)	1 mg/l
PNEC aqua (intermittent, freshwater)	10 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	37 mg/kg dwt
PNEC sediment (marine water)	3.7 mg/kg dwt
PNEC (Soil)	
PNEC soil	1.53 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	199.5 mg/l

Glycerol (56-81-5)		
Belgium	Limit value (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Belgium	Remark*	(brouillard)
France	VME (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
France	Note (FR)	(aérosols de)
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (respirable fraction)
Spain	VLA-ED (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Switzerland	VLE (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Switzerland	VME (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Switzerland	Remark (CH)	(inhalable aerosol)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>

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Glycerol (56-81-5)		
Czech Republic	Expoziční limity (PEL) (ppm)	2.44 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
Czech Republic	Expoziční limity (NPK-P) (ppm)	3.66 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Poland	NDS (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>

### 8.2. Exposure controls

Appropriate engineering controls : Avoid splashing. Either local exhaust or general room ventilation is usually required.  
Personal protective equipment : Safety glasses. Gloves.



Hand protection : Wear suitable gloves resistant to chemical penetration. butyl rubber gloves. natural rubber gloves. EN 374.

Eye protection : Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product. Use splash goggles when eye contact due to splashing is possible. EN 166.

Respiratory protection : No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Use air-purifying respirator equipped with particulate filtering cartridges. EN 12083.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Semi-opaque.

Colour : Blue.

Odour : No data available

Odour threshold : No data available

pH : 6.5 - 7.5

Relative evaporation rate (butylacetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : > 90 °C

Flash point : > 93.3 °C (Pensky-Martens closed cup)

Self ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapour pressure : No data available

Relative vapour density at 20 °C : > 1 (Air = 1)

Relative density : 1 - 1.1

Relative density of saturated gas/air mixture : 1 - 1.1

Solubility : Soluble in water.

Log Pow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : 1.7 - 2.1

Explosive properties : No data available

Oxidising properties : No data available

Explosive limits : No data available

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### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Hazardous polymerization will not occur.

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

### 10.4. Conditions to avoid

Do not store with incompatible materials.

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Based on available data, the classification criteria are not met

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ATE (oral)	5000.000 mg/kg bodyweight
ATE (dermal)	12000.000 mg/kg bodyweight
ATE (dust,mist)	20.000 mg/l/4h

2-pyrrolidone (616-45-5)	
LD50 oral rat	5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 20 mg/l/4h
ATE (oral)	5000.000 mg/kg bodyweight

Glycerol (56-81-5)	
LD50 oral rat	5570 mg/kg
ATE (oral)	5570.000 mg/kg bodyweight

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 2 mg/l/4h

1,2-benzisothiazolone (2634-33-5)	
ATE (oral)	500.000 mg/kg

Copper, 3-[(3,4-dicyanophenyl)sulfonyl]-N-(2-hydroxypropyl)-1-propanesulfonamide-lithium 3-[(3,4-dicyanophenyl)sulfonyl]-1-propanesulfonate reaction products complexes (569316-88-7)	
LD50 oral rat	> 2500 mg/kg

Ethylene glycol (107-21-1)	
LD50 oral rat	7712 mg/kg
LD50 dermal rat	> 3500 mg/kg mouse
LC50 inhalation rat (mg/l)	> 2.5 mg/l/4h
ATE (oral)	500.000 mg/kg bodyweight

Skin corrosion/irritation : Based on available data, the classification criteria are not met  
pH: 6.5 - 7.5

Serious eye damage/irritation : Causes serious eye damage.  
pH: 6.5 - 7.5

Respiratory or skin sensitisation : Based on available data, the classification criteria are not met

Germ cell mutagenicity : Based on available data, the classification criteria are not met

Carcinogenicity : Based on available data, the classification criteria are not met

Reproductive toxicity : Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Based on available data, the classification criteria are not met

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Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

<b>2-pyrrolidone (616-45-5)</b>	
NOAEL (oral,rat,90 days)	207 mg/kg bodyweight/day The kidneys were the most affected organs.

<b>2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)</b>	
NOAEL (subacute,oral, animal/male,28 days)	200 mg/kg bodyweight

<b>Ethylene glycol (107-21-1)</b>	
NOAEL (oral,rat,90 days)	150 mg/kg bodyweight/day kidney

Aspiration hazard : Based on available data, the classification criteria are not met

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>2-pyrrolidone (616-45-5)</b>	
LC50 fishes 1	> 4600 (4600 - 10000) mg/l 96 hr. Danio rerio
EC50 Daphnia 1	> 500 mg/l
ErC50 (algae)	> 500 mg/l
NOEC (acute)	4640 mg/l

<b>2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)</b>	
LC50 fishes 1	52.5 mg/l juvenile S. maximus
EC50 Daphnia 1	166 mg/l
ErC50 (algae)	15 mg/l
NOEC chronic algae	1 mg/l

<b>Copper, 3-[(3,4-dicyanophenyl)sulfonyl]-N-(2-hydroxypropyl)-1-propanesulfonamide-lithium 3-[(3,4-dicyanophenyl)sulfonyl]-1-propanesulfonate reaction products complexes (569316-88-7)</b>	
LC50 fishes 1	> 100 mg/l
EC50 Daphnia 1	> 180 mg/l
NOEC chronic crustacea	10 mg/l

<b>Ethylene glycol (107-21-1)</b>	
LC50 fishes 1	72860 mg/l Pimephales promelas
EC50 Daphnia 1	> 100 mg/l
NOEC chronic fish	15380 mg/l Pimephales promelas
NOEC chronic crustacea	8590 mg/l Ceriodaphnia sp.

### 12.2. Persistence and degradability

<b>2-pyrrolidone (616-45-5)</b>	
Persistence and degradability	Readily biodegradable.

<b>Glycerol (56-81-5)</b>	
Persistence and degradability	Readily biodegradable.

<b>2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)</b>	
Persistence and degradability	Not readily biodegradable.

<b>MOPS (1132-61-2)</b>	
Persistence and degradability	Not expected to persist.

<b>Copper, 3-[(3,4-dicyanophenyl)sulfonyl]-N-(2-hydroxypropyl)-1-propanesulfonamide-lithium 3-[(3,4-dicyanophenyl)sulfonyl]-1-propanesulfonate reaction products complexes (569316-88-7)</b>	
Persistence and degradability	Not readily biodegradable.

<b>Ethylene glycol (107-21-1)</b>	
Persistence and degradability	Readily biodegradable.

### 12.3. Bioaccumulative potential

<b>2-pyrrolidone (616-45-5)</b>	
Bioconcentration factor (BCF REACH)	3.16
Log Pow	- 0.32
Bioaccumulative potential	Not expected to bioaccumulate.

<b>2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)</b>	
Bioconcentration factor (BCF REACH)	< 24
Bioaccumulative potential	Not expected to bioaccumulate.



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MOPS (1132-61-2)	
Bioaccumulative potential	Not expected to bioaccumulate.

Ethylene glycol (107-21-1)	
Log Pow	- 1.36
Bioaccumulative potential	Not expected to bioaccumulate.

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

CR5 Guthega Cyan	
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.	

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Do not dispose in household garbage. Dispose in a safe manner in accordance with local/national regulations. Significant quantities of waste product residues should be processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

EURLW code : 08 03 13 - waste ink other than those mentioned in 08 03 12

## SECTION 14: Transport information

In accordance with ADR / RID / ADN / IMDG / ICAO / IATA

### 14.1. UN number

Not a dangerous good in sense of transport regulations

### 14.2. UN proper shipping name

Not applicable

### 14.3. Transport hazard class(es)

Not applicable

### 14.4. Packing group

Not applicable

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### 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

#### 14.6.4. Inland waterway transport

No additional information available

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

No REACH Annex XVII restrictions

Contains no REACH candidate substance

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Other regulations, restrictions and prohibition regulations : Contains no substances on the IPPC Water List.  
Contains no substances on the IPPC Air List.  
Annex XVII is not applicable for any constituents under the defined use.  
Contains no REACH Annex XIV substances.

### 15.1.2. National regulations

Components are listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- EEC Directive 79/831, sixth Amendment of the directive 67/548 (dangerous substances).

### 15.2. Chemical safety assessment

This product contains substances for which Chemical Safety Assessments are still required.

## SECTION 16: Other information

Indication of changes:

GHS classification information. Composition update. Revised section: 1-16.

Data sources : Chemical Book. Accessed at [http://www.chemicalbook.com/CASEN\\_1132-61-2.htm](http://www.chemicalbook.com/CASEN_1132-61-2.htm).  
Chemical Inspection & Regulation Service; accessed at: [http://www.cirs-reach.com/Inventory/Global\\_Chemical\\_Inventories.html](http://www.cirs-reach.com/Inventory/Global_Chemical_Inventories.html)  
ESIS (European Chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla> European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
European Chemicals Agency (ECHA) Registered Substances list. Accessed at [http://apps.echa.europa.eu/registered/data/dossiers/DISS-9d87859b-95d3-6682-e044-00144f67d249/AGGR-eb111830-cb5e-4cfa-ad1d-b14e9b9dd02e\\_DISS-9d87859b-95d3-6682-e044-00144f67d249.html#L-01b49a8e-b03d-4042-a700-ef290d52b0f](http://apps.echa.europa.eu/registered/data/dossiers/DISS-9d87859b-95d3-6682-e044-00144f67d249/AGGR-eb111830-cb5e-4cfa-ad1d-b14e9b9dd02e_DISS-9d87859b-95d3-6682-e044-00144f67d249.html#L-01b49a8e-b03d-4042-a700-ef290d52b0f)  
European Chemicals Agency (ECHA) Registered Substances list. Accessed at [http://apps.echa.europa.eu/registered/data/dossiers/DISS-9ebbecfd-445f-4e5d-e044-00144f67d031/AGGR-912bf621-2750-4ae8-a3bc-d14bcb0f4e8\\_DISS-9ebbecfd-445f-4e5d-e044-00144f67d031.html#GEN\\_APPL\\_SUM\\_HD](http://apps.echa.europa.eu/registered/data/dossiers/DISS-9ebbecfd-445f-4e5d-e044-00144f67d031/AGGR-912bf621-2750-4ae8-a3bc-d14bcb0f4e8_DISS-9ebbecfd-445f-4e5d-e044-00144f67d031.html#GEN_APPL_SUM_HD)  
European Standards: Personal Protective Equipment; accessed at: [http://ec.europa.eu/enterprise/policies/european-standards/hamonised-standards/personal-protective-equipment/index\\_en.htm](http://ec.europa.eu/enterprise/policies/european-standards/hamonised-standards/personal-protective-equipment/index_en.htm)  
IPPC Air List.  
IPPC Water List  
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition  
Lewis, R.J. Sr. (ed) Sax's Dangerous Properties of Industrial Materials. 11th Edition. Wiley-Interscience, Wiley & Sons, Inc. Hoboken, NJ. 2004., p. 1664  
National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition.  
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.  
Toxnet. Accessed at <http://toxnet.nlm.nih.gov/cgi-bin/sis/download.txt>  
US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>.

Abbreviations and acronyms : ATE: Acute Toxicity Estimate.  
CAS (Chemical Abstracts Service) number.  
DNEL: Derived No Effect Level.  
EC50: Environmental Concentration associated with a response by 50% of the test population.  
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).  
IPPC: Integrated Pollution Prevention and Control.  
LD50: Lethal Dose for 50% of the test population.  
PNEC: Predicted No Effect Level.  
PBT: Persistent, Bioaccumulative, Toxic.  
STEL: Short Term Exposure Limits.  
TSCA: Toxic Substances Control Act.  
TWA: Time Weight Average.

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

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Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
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 sensitisation Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
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
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects
R22	Harmful if swallowed.
R36	Irritating to eyes.
R36/38	Irritating to eyes and skin.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful.

SDS EU (REACH Annex II)

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*