

# CR 1 Tigris Yellow

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 /

Monday, March 26, 2012 / Rules and Regulations

Date of issue: 09/26/2014

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Version: 2.1

# memjet

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

#### 1.1. Product identifier

Product form : Mixture

Product name : CR 1 Tigris Yellow

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

Use of the substance/mixture : Inkjet printing

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

Memjet Ltd.  
61-62 Fitzwilliam Lane  
Dublin 2, Ireland  
T +353 1 678 0420  
[msds@memjet.com](mailto:msds@memjet.com)  
[www.memjet.com](http://www.memjet.com)

#### 1.4. Emergency telephone number

For Hazardous Materials Incidents (spill, leak, fire, exposure, or accident) call: 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 (GHS-US)

Repr. 1B H360

Full text of H-phrases: see section 16

#### 2.2. Label elements

GHS-US labeling



GHS08

Hazard pictograms (GHS-US)

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H360 - May damage fertility or the unborn child

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P308+P313 - If exposed or concerned: Get medical advice/attention

P501 - Dispose of contents/container in accordance with local and national regulations.

#### 2.3. Other hazards

Other hazards not contributing to the classification

: None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS-US)

2 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral).

2 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal).

2 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist)).

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification (GHS-US)
Water	(CAS No) 7732-18-5	>62	Not classified

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Name	Product identifier	%	Classification (GHS-US)
Sulfone	Withheld as Trade Secret	15 - 25	Acute Tox. 4 (Oral), H302 Repr. 1B, H360
Glycerol	(CAS No) 56-81-5	< 10	Not classified
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate	(CAS No) 9014-85-1	< 1	Eye Dam. 1, H318 Aquatic Acute 3, H402 Aquatic Chronic 3, H412

Full text of H-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.
- First-aid measures after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

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

- Symptoms/injuries : May damage fertility. May damage the unborn child.

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

Treat symptomatically and supportively.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

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

- Fire hazard : No specific fire or explosion hazard.
- Explosion hazard : Product is not explosive.
- Reactivity : No dangerous reactions known.

#### 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. EN469.

### SECTION 6: Accidental release measures

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

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

- Protective equipment : Avoid contact with skin and eyes.
- 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 vapor and mist.
- Emergency procedures : Stop leak if safe to do so. Impound and recover large spill by mixing it with inert granular solids.

#### 6.2. Environmental precautions

Do not discharge into drains or the environment.

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

- For containment : Absorb and/or contain spill with inert material, then place in suitable container.

#### 6.4. Reference to other sections

Section 7: safe handling.

Section 8: personal protective equipment.

Section 13: disposal information.

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### 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 vapor and mist. 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

No additional information available

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

Inkjet printing

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

All applicable OELs are shown for chemicals listed in Section 3.

Sulfone		
Chevron Phillips Chemical Company LP	TWA (ppm)	0.37 ppm
ACGIH	Not applicable	
OSHA	Not applicable	
Glycerol (56-81-5)		
USA ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
USA ACGIH	Remark (ACGIH)	URT irr
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total) 5 mg/m³ (respirable fraction)

#### 8.2. Exposure controls

Appropriate engineering controls

: No special work practices are needed beyond the above recommendations under anticipated conditions of normal use.

Personal protective equipment

Hand protection

: Avoid all unnecessary exposure.

: Wear suitable gloves resistant to chemical penetration. Butyl rubber gloves or natural rubber gloves.

Eye protection

: No special eye protection equipment recommended under normal conditions of use.

Respiratory protection

: No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation.

Other information

: When using, do not eat, drink or smoke.

### SECTION 9: Physical and chemical properties

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

Physical state

: Liquid

Appearance

: Semi-opaque liquid.

Color

: Yellow.

Odor

: No data available

Odor threshold

: No data available

pH

: 7.1

Relative evaporation rate (butyl acetate=1)

: No data available

Melting point

: No data available

Freezing point

: No data available

Boiling point

: No data available

Flash point

: No data available

Self ignition temperature

: No data available

Decomposition temperature

: No data available

Flammability (solid, gas)

: No data available

Vapor pressure

: No data available

Relative vapor density at 20 °C

: > 1 (Air = 1)

Relative density

: 1.0922 @ 23.8 °C

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Relative density of saturated gas/air mixture :  $\geq 1$   
Solubility : Soluble in water.  
Log Pow : No data available  
Log Kow : No data available  
Viscosity, kinematic : No data available  
Viscosity, dynamic : No data available  
Explosive properties : No data available  
Oxidizing properties : No data available  
Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known.

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

#### 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

#### Sulfone

LD50 oral rat	2006 (2006 - 2130) mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	12000 mg/l/4h
ATE (oral)	2006.000 mg/kg body weight
ATE (dust, mist)	12000.000 mg/l/4h

#### Water (7732-18-5)

LD50 oral rat	> 5000 mg/kg body weight
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 6 mg/l/4h

#### Glycerol (56-81-5)

LD50 oral rat	5570 mg/kg
ATE (oral)	5570.000 mg/kg body weight

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)  
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)  
Respiratory or skin sensitization : Not classified (Based on available data, the classification criteria are not met)  
Genm cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)  
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)  
Reproductive toxicity : May damage fertility or the unborn child.

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

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

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)

NOAEL (subacute,oral,animal/male,28 days) 200 mg/kg body weight

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Likely routes of exposure : Skin and eyes contact

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : No ecotoxicological data about this product are known.

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)

LC50 fish 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

#### Sulfone

LC50 fish 1 > 100 mg/l *Oryzias latipes*

EC50 *Daphnia* 1 852 mg/l

ErC50 (algae) > 1000 mg/l

NOEC chronic crustacea 171 mg/l

NOEC chronic algae 309 mg/l

#### 12.2. Persistence and degradability

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Persistence and degradability Not established.

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)

Persistence and degradability Not readily biodegradable.

#### Sulfone

Persistence and degradability Not readily biodegradable.

#### Glycerol (56-81-5)

Persistence and degradability Readily biodegradable.

#### 12.3. Bioaccumulative potential

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Bioaccumulative potential Not established.

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)

Bioconcentration factor (BCF REACH) < 24

Bioaccumulative potential Not expected to bioaccumulate.

#### Sulfone

Bioconcentration factor (BCF REACH) < 13

Bioaccumulative potential Not expected to bioaccumulate.

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment

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### SECTION 14: Transport information

In accordance with DOT

Not considered a dangerous good for transport regulations

Additional information

Other information : No supplementary information available.

ADR

Transport document description

Transport by sea

No additional information available

Air transport

No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sulfone

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Glycerol (56-81-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

##### CANADA

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WHMIS Classification Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Sulfone

Listed on the Canadian DSL (Domestic Substances List) inventory.

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Glycerol (56-81-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

##### EU-Regulations

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

Sulfone

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

Water (7732-18-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

Glycerol (56-81-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) substances.

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

Repr. 1B H360

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Repr. Cat. 1; R61

15.2.2. National regulations

**2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)**

Listed on Inventory of Existing Chemical Substances (IECSC)

Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.

Listed on KECI (Chemical Inventory of Korea)

Listed on Taiwan National Chemical Inventory

Listed on Inventory of Chemicals and Chemical Substances (PICCS)

Listed on the AICS (the Australian Inventory of Chemical Substances).

Listed on New Zealand - Inventory of Chemicals (NZIoC)

**Sulfone**

Listed on the Inventory of Existing Chemical Substances Produced or Imported in China (IECSC).

Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.

Listed on KECI (Chemical Inventory of Korea)

Listed on Inventory of Chemicals and Chemical Substances (PICCS)

Listed on the AICS (the Australian Inventory of Chemical Substances).

Listed on New Zealand - Inventory of Chemicals (NZIoC)

**Water (7732-18-5)**

Listed on Inventory of Existing Chemical Substances (IECSC)

Not listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.

Listed on Taiwan National Chemical Inventory

Listed on KECI (Chemical Inventory of Korea)

Listed on Inventory of Chemicals and Chemical Substances (PICCS)

Listed on the AICS (the Australian Inventory of Chemical Substances).

Listed on New Zealand - Inventory of Chemicals (NZIoC)

**Glycerol (56-81-5)**

Listed on Inventory of Existing Chemical Substances (IECSC)

Listed on KECI (Chemical Inventory of Korea)

Listed on the Japanese ENCS (Existing & New Chemicals Substances) inventory.

Listed on Taiwan National Chemical Inventory

Listed on Inventory of Chemicals and Chemical Substances (PICCS)

Listed on the AICS (the Australian Inventory of Chemical Substances).

Listed on New Zealand - Inventory of Chemicals (NZIoC)

15.3. US State regulations

**Glycerol (56-81-5)**

U.S. - New Jersey - Right to Know Hazardous Substance List

### SECTION 16: Other information

Indication of changes

Revision date

GHS classification information.

05/05/2015

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### Data sources

: ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>  
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).  
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://echa.europa.eu/>.  
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.  
National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition.  
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.  
EC50: Environmental Concentration associated with a response by 50% of the test population.  
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).  
LD50: Lethal Dose for 50% of the test population.  
NOEC: No Observable Effect Concentration.  
OSHA: Occupational Safety & Health Administration.  
TSCA: Toxic Substances Control Act.  
TWA: Time Weighted Average.

### Other information

: None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Repr. 1B	Reproductive toxicity Category 1B
H302	Harmful if swallowed
H318	Causes serious eye damage
H360	May damage fertility or the unborn child
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

### NFPA health hazard

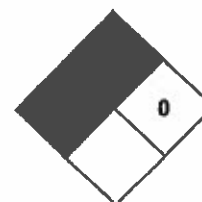
: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

### NFPA fire hazard

: 0 - Materials that will not burn.

### NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

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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.