

# ER 2.0 Tigris Black

## Safety Data Sheet

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

Monday, March 26, 2012 / Rules and Regulations

Date of issue: 03/10/2014

Version: 1.0



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

#### 1.1. Product identifier

Product form

: Mixtures

Product name

: ER 2.0 Tigris Black

#### 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 Operations, Ltd. (aka Zamtec, Ltd.)

61-62 Fitzwilliam Lane

Dublin, 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

### SECTION 2: Hazards identification

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

##### Classification (GHS-US)

Not classified

#### 2.2. Label elements

##### GHS-US labeling

No labeling applicable

#### 2.3. Other hazards

Other hazards not contributing to the classification

: None under normal conditions.

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

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

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

3 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

Full text of H-phrases: see section 16

#### 3.2. Mixtures

Alternate component name(s) and composition ranges may be used to protect Trade Secrets.

Name	Product identifier	%	Classification (GHS-US)
Water	(CAS No) 7732-18-5	~66	Not classified
Sulfone	Withheld as Trade Secret	22-28	Acute Tox. 4 (Oral), H302
Glycerol	(CAS No) 56-81-5	<10	Not classified. See Exposure Limit, section 8.
Ethoxylated acetylenic diols	Withheld as Trade Secret	<5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319

### SECTION 4: First aid measures

#### 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.

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|---------------------------------------|--|
| 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

No significant signs or symptoms indicative of any health hazard are expected to occur.

### 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       | : Hazardous polymerization will not occur. |

### 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/flammable resistant/retardant clothing. Use self-contained breathing apparatus. |

## 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 vapor and mist. |
|------------------|--|

#### 6.1.1. For non-emergency personnel

- |                      |  |
|----------------------|--|
| Protective equipment | : Avoid contact with skin and eyes. 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 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.        |
| Methods for cleaning up | : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. |

### 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 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

additional information available

### 7.3. Specific end use(s)

Inkjet printing.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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

Glycerol (56-81-5)		
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)

#### 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	: Avoid all unnecessary exposure.
Hand protection	: Wear suitable gloves resistant to chemical penetration. butyl rubber gloves. 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.
Appropriate engineering controls	: No special work practices are needed beyond the above recommendations under anticipated conditions of normal use.

### SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Semi-opaque liquid.
Color	: Black.
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
Relative density of saturated gas/air mixture	: ≥ 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

Hazardous polymerization will not occur.

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### 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

None known.

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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

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)	500.000 mg/kg body weight
ATE (vapors)	12000.000 mg/l/4h
ATE (dust, mist)	12000.000 mg/l/4h

Ethoxylated acetylenic diols	
LD50 oral rat	1230 mg/kg (Based on similar product)
ATE (oral)	1230.000 mg/kg body weight

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

Germ 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

ER 2.0 Tigris Black - components	
IARC group	Not listed in carcinogenicity class
National Toxicology Program (NTP) Status	Not listed in carcinogenicity class

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

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

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

Potential Adverse human health effects and symptoms:

No significant signs or symptoms indicative of any health hazard are expected to occur.

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.

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Sulfone	
LC50 fish 1	> 100 mg/l <i>Oryzias latipes</i>
EC50 <i>Daphnia</i> 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.

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.

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 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.

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

Ecology - waste materials : Avoid release to the environment.

## 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

Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Sulfone	
Ethoxylated acetylenic diols	

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

Glycerol (56-81-5)

### 15.2. International regulations

#### CANADA

##### ER2.0 Tigris Yellow

WHMIS Classification

Uncontrolled

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

Sulfone

Ethoxylated acetylenic diols

Glycerol (56-81-5)

#### EU-Regulations

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

Sulfone

Ethoxylated acetylenic diols

Glycerol (56-81-5)

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

Not Classified

Full text of H-phrases: see section 16

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

Xn; R22

Full text of R-phrases: see section 16

#### 5.2.2. National regulations

##### 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)

##### Ethoxylated acetylenic diols

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

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

Listed on New Zealand - Inventory of Chemicals (NZIoC)

Listed on KECI (Chemical Inventory of Korea)

Listed on Inventory of Chemicals and Chemical Substances (PICCS)

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

##### 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

U.S. - Minnesota - Hazardous Substance List

U.S. - Washington - Permissible Exposure Limits - STELs

U.S. - Washington - Permissible Exposure Limits - TWAs

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### SECTION 16: Other information

Indication of changes

: Original Document.

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/quest/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.  
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.  
US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>.  
Vendor Safety Data Sheets for components.

Abbreviations and acronyms

: ATE: Acute Toxicity Estimate.  
CAS (Chemical Abstracts Service) number.  
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.

Other information

: None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Sens. 1	Skin sensitization Category 1
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

NFPA health hazard

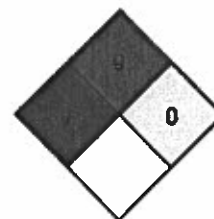
: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

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)

**SDS Prepared by:** The Redstone Group, LLC  
6397 Emerald Pkwy.  
Suite 200  
Dublin, OH 43016  
T 614-923-7472  
[www.redstonegrp.com](http://www.redstonegrp.com)

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