

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Singlepack Black 16 DURABrite Ultra Ink
- 1.2. Relevant identified uses of the substance or mixture and uses advised against  
Recommended use:  
Ink for inkjet printing
- 1.3. Details of the supplier of the safety data sheet  
Company:  
EPSON EUROPE B.V.  
Azie building, Atlas ArenA, Hoogoorddreef 5, 1101 BA Amsterdam  
Zuidoost The Netherlands  
Phone number: +31-20-314-5000  
Competent person responsible for the safety data sheet:  
chemicals@epson-europe.com  
Date: 01/11/2016  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790

### SECTION 2: Hazards identification









- 2.1. Classification of the substance or mixture  
EC regulation criteria 1272/2008 (CLP)  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Adverse physicochemical, human health and environmental effects:  
No other hazards
- 2.2. Label elements  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Hazard pictograms:  
None  
Hazard statements:  
None  
Precautionary statements:  
None  
Special Provisions:  
EUH210 Safety data sheet available on request.  
EUH208 Contains 2,4,7,9-tetramethyldec-5-yne-4,7-diol. May produce an allergic reaction.  
EUH208 Contains 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one. May produce an allergic reaction.  
Special provisions according to Annex XVII of REACH and subsequent amendments:  
None
- 2.3. Other hazards  
vPvB Substances: None - PBT Substances: None  
Other Hazards:  
No other hazards

### SECTION 3: Composition/information on ingredients

- 3.1. Substances  
No
- 3.2. Mixtures

## Safety Data Sheet

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
65% ~ 80%	Water	CAS: 7732-18-5 EC: 231-791-2	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
10% ~ 12.5%	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
5% ~ 7%	Carbon black	CAS: 1333-86-4 EC: 215-609-9	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1% ~ 3%	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether	Index number: 603-183-00-0 CAS: 143-22-6 EC: 205-592-6 REACH No.: 01-21194751 07-38	 3.3/1 Eye Dam. 1 H318
0.1% ~ 0.25%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
< 0.05%	1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	Index number: 613-088-00-6 CAS: 2634-33-5 EC: 220-120-9	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.3/1 Eye Dam. 1 H318  3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317  4.1/A1 Aquatic Acute 1 H400

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

Treatment:

None

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media:

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Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

### SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

### SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

None in particular

### SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol - CAS: 56-81-5

- OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup> - Notes: PEL, as mist, respirable fraction

- OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup> - Notes: PEL, as mist, total dust

Carbon black - CAS: 1333-86-4

- OEL Type: ACGIH - LTE: 3 mg/m<sup>3</sup>

- OEL Type: NIOSH - LTE: 3.5 mg/m<sup>3</sup> - STE: 1750 mg/m<sup>3</sup>

- OEL Type: OSHA - LTE: 3.5 mg/m<sup>3</sup>

DNEL Exposure Limit Values

No data available

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### PNEC Exposure Limit Values

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether -  
CAS: 143-22-6

Target: Fresh Water - Value: 1.5 mg/l

Target: Freshwater sediments - Value: 5.77 mg/kg

Target: Marine water - Value: 0.15 mg/l

Target: Marine water sediments - Value: 0.13 mg/kg

Target: Microorganisms in sewage treatments - Value: 200 mg/l

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

Target: Fresh Water - Value: 0.04 mg/l

Target: Marine water - Value: 0.004 mg/l

Target: Freshwater sediments - Value: 0.32 mg/kg

Target: Marine water sediments - Value: 0.032 mg/kg

### 8.2. Exposure controls

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Not needed for normal use.

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

## SECTION 9: Physical and chemical properties

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

Appearance and colour:	Black Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	8.4 ~ 9.4 at 20 °C
Melting point / freezing point:	-12.7 °C
Initial boiling point and boiling range:	No data available
Solid/gas flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour density:	No data available
Flash point:	Does not flash until 100 °C / 212 ° F (closed cup method, ASTM D 3278)
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	1.067 at 20 °C
Solubility in water:	Complete
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Explosive properties:	No data available
Oxidizing properties:	No data available

### 9.2. Other information

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Miscibility:	No data available
Fat Solubility:	No data available
Conductivity:	No data available

### SECTION 10: Stability and reactivity

- 10.1. Reactivity  
Stable under normal conditions
- 10.2. Chemical stability  
Stable under normal conditions
- 10.3. Possibility of hazardous reactions  
None
- 10.4. Conditions to avoid  
Stable under normal conditions.
- 10.5. Incompatible materials  
None in particular.
- 10.6. Hazardous decomposition products  
None.

### SECTION 11: Toxicological information

- 11.1. Information on toxicological effects  
Toxicological information of the mixture:  
No data available  
Toxicological information of the main substances found in the mixture:  
Glycerol - CAS: 56-81-5
  - a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Guinea pig = 7750 mg/kg - Source: Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941  
Test: LDLo - Route: Oral - Species: Human = 1428 mg/kg - Source: "Toxicology of Drugs and Chemicals," Deichmann, W.B., New York, Academic Press, Inc., 1969Vol. -, Pg. 288, 1969. - Notes: BEHAVIORAL: HEADACHE  
GASTROINTESTINAL: NAUSEA OR VOMITINGCarbon black - CAS: 1333-86-4
  - a) acute toxicity:  
Test: LD50 - Route: Dermal - Species: Rabbit > 3 g/kg - Source: Acute Toxicity Data. Journal of the American College of Toxicology, Part B. Vol. 15  
Test: LD50 - Route: Oral - Species: Rat > 15400 mg/kg - Source: Acute Toxicity Data. Journal of the American College of Toxicology, Part B. Vol. 152-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether - CAS: 143-22-6
  - a) acute toxicity:  
Test: LD50 - Route: Dermal - Species: Rabbit = 3.54 ml/kg - Source: American Industrial Hygiene Association Journal. Vol. 23, Pg. 95, 1962.  
Test: LD50 - Route: Oral - Species: Rat = 5300 mg/kg - Source: Office of Toxic Substances Report. Vol. OTS,2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3
  - a) acute toxicity:  
Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg - Notes: OECD TG No.402
  - b) skin corrosion/irritation:  
Test: Skin Irritant - Species: Rabbit Mild irritant - Notes: OECD TG No.404
  - c) serious eye damage/irritation:  
Test: Eye Irritant - Species: Rabbit Highly irritating - Notes: EPA OTS 798.4500
  - d) respiratory or skin sensitisation:

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Test: Skin Sensitisation - Route: LLNA - Species: Mouse Sensitiser - Notes:  
OECD TG No.429

e) germ cell mutagenicity:

Test: Mutagenesis - Species: Salmonella Typhimurium Negative - Notes: OECD  
TG No.471

Carbon black - CAS: 1333-86-4

With excessive exposure, carbon black has been listed as a possible human carcinogen. However, as engineered within this ink cartridge, emissions to air of carbon black during normal printing use have not been found. IARC, the International Agency for Research on Cancer, has found printing inks to be not classifiable as human carcinogens.

If not differently specified, the information required in Regulation (EU) 2015/830 listed below must be considered as 'No data available':

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 36 mg/l - Duration h: 96 - Notes: OECD TG No.203

Endpoint: EC50 - Species: Daphnia = 88 mg/l - Duration h: 48 - Notes: OECD TG  
No.202

Endpoint: EC50 - Species: Algae = 15 mg/l - Duration h: 72 - Notes: OECD TG No.201

c) Bacteria toxicity:

Endpoint: EC50 - Species: activated sludge = mg/l - Notes: OECD TG No.209

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

#### 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

### SECTION 14: Transport information

#### 14.1. UN number

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- Not classified as dangerous in the meaning of transport regulations.
- 14.2. UN proper shipping name  
No data available
- 14.3. Transport hazard class(es)  
No data available
- 14.4. Packing group  
No data available
- 14.5. Environmental hazards  
No data available
- 14.6. Special precautions for user  
No data available
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
No data available

### SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- Dir. 98/24/EC (Risks related to chemical agents at work)
  - Dir. 2000/39/EC (Occupational exposure limit values)
  - Regulation (EC) n. 1907/2006 (REACH)
  - Regulation (EC) n. 1272/2008 (CLP)
  - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
  - Regulation (EU) 2015/830
  - Regulation (EU) n. 286/2011 (ATP 2 CLP)
  - Regulation (EU) n. 618/2012 (ATP 3 CLP)
  - Regulation (EU) n. 487/2013 (ATP 4 CLP)
  - Regulation (EU) n. 944/2013 (ATP 5 CLP)
  - Regulation (EU) n. 605/2014 (ATP 6 CLP)
- Restrictions related to the product or the substances contained according to Annex XVII  
Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
- Restrictions related to the product:  
No restriction.
  - Restrictions related to the substances contained:  
No restriction.
- Where applicable, refer to the following regulatory provisions :
- Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
  - Regulation (EC) nr 648/2004 (detergents).
  - 1999/13/EC (VOC directive)
- Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):  
No data available
- 15.2. Chemical safety assessment  
No

### SECTION 16: Other information

- Full text of phrases referred to in Section 3:
- H318 Causes serious eye damage.
  - H317 May cause an allergic skin reaction.
  - H412 Harmful to aquatic life with long lasting effects.
  - H302 Harmful if swallowed.
  - H315 Causes skin irritation.
  - H400 Very toxic to aquatic life.

Hazard class and	Code	Description
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hazard category		
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

This safety data sheet has been completely updated in compliance to Regulation 2015/830. This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

CCNL - Appendix 1

Insert further consulted bibliography

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This Safety Data Sheet cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day.



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WGK: (ACGIH Standard).  
German Water Hazard Class.

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Singlepack Cyan 16 DURABrite Ultra Ink
- 1.2. Relevant identified uses of the substance or mixture and uses advised against  
Recommended use:  
Ink for inkjet printing
- 1.3. Details of the supplier of the safety data sheet  
Company:  
EPSON EUROPE B.V.  
Azie building, Atlas ArenA, Hoogoorddreef 5, 1101 BA Amsterdam  
Zuidoost The Netherlands  
Phone number: +31-20-314-5000  
Competent person responsible for the safety data sheet:  
chemicals@epson-europe.com  
Date: 11/05/2017  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790

### SECTION 2: Hazards identification









- 2.1. Classification of the substance or mixture  
EC regulation criteria 1272/2008 (CLP)  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Adverse physicochemical, human health and environmental effects:  
No other hazards
- 2.2. Label elements  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Hazard pictograms:  
None  
Hazard statements:  
None  
Precautionary statements:  
None  
Special Provisions:  
EUH210 Safety data sheet available on request.  
EUH208 Contains 2,4,7,9-tetramethyldec-5-yne-4,7-diol. May produce an allergic reaction.  
EUH208 Contains 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one. May produce an allergic reaction.  
Special provisions according to Annex XVII of REACH and subsequent amendments:  
None
- 2.3. Other hazards  
vPvB Substances: None - PBT Substances: None  
Other Hazards:  
No other hazards

### SECTION 3: Composition/information on ingredients

- 3.1. Substances  
No
- 3.2. Mixtures

## Safety Data Sheet

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
65% ~ 80%	Water	CAS: 7732-18-5 EC: 231-791-2	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
12.5% ~ 15%	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1% ~ 3%	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether	Index number: 603-183-00-0 CAS: 143-22-6 EC: 205-592-6 REACH No.: 01-21194751 07-38	 3.3/1 Eye Dam. 1 H318
1% ~ 3%	Triethanol amine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.25% ~ 0.5%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
< 0.05%	1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	Index number: 613-088-00-6 CAS: 2634-33-5 EC: 220-120-9	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.3/1 Eye Dam. 1 H318  3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317  4.1/A1 Aquatic Acute 1 H400

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

Treatment:

None

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media:

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Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

### SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

### SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

None in particular

### SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol - CAS: 56-81-5

- OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup>

- OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup>

DNEL Exposure Limit Values

No data available

PNEC Exposure Limit Values

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether -

CAS: 143-22-6

Target: Fresh Water - Value: 1.5 mg/l

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Target: Freshwater sediments - Value: 5.77 mg/kg  
 Target: Marine water - Value: 0.15 mg/l  
 Target: Marine water sediments - Value: 0.13 mg/kg  
 Target: Microorganisms in sewage treatments - Value: 200 mg/l  
 2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3  
 Target: Fresh Water - Value: 0.04 mg/l  
 Target: Marine water - Value: 0.004 mg/l  
 Target: Freshwater sediments - Value: 0.32 mg/kg  
 Target: Marine water sediments - Value: 0.032 mg/kg

### 8.2. Exposure controls

Eye protection:  
 Not needed for normal use. Anyway, operate according good working practices.  
 Protection for skin:  
 No special precaution must be adopted for normal use.  
 Protection for hands:  
 Not needed for normal use.  
 Respiratory protection:  
 Not needed for normal use.  
 Thermal Hazards:  
 None  
 Environmental exposure controls:  
 None  
 Appropriate engineering controls:  
 None

## SECTION 9: Physical and chemical properties

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

Appearance and colour:	Cyan Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	9 ~ 10 at 20 °C
Melting point / freezing point:	No data available
Initial boiling point and boiling range:	No data available
Solid/gas flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour density:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	1.065 at 20 °C
Solubility in water:	Complete
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Explosive properties:	No data available
Oxidizing properties:	No data available

### 9.2. Other information

Miscibility:	No data available
Fat Solubility:	No data available
Conductivity:	No data available

## SECTION 10: Stability and reactivity

## Safety Data Sheet

- 10.1. Reactivity  
Stable under normal conditions
- 10.2. Chemical stability  
Stable under normal conditions
- 10.3. Possibility of hazardous reactions  
None
- 10.4. Conditions to avoid  
Stable under normal conditions.
- 10.5. Incompatible materials  
None in particular.
- 10.6. Hazardous decomposition products  
None.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Toxicological information of the mixture:

f) carcinogenicity:

Does not contain carcinogens (Ref. 1)

g) reproductive toxicity:

Does not contain reproductive toxicity and developmental toxic substances (Ref. 2)

Toxicological information of the main substances found in the mixture:

Glycerol - CAS: 56-81-5

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Guinea pig = 7750 mg/kg - Source: Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941

Test: LDLo - Route: Oral - Species: Human = 1428 mg/kg - Source: "Toxicology of Drugs and Chemicals," Deichmann, W.B., New York, Academic Press, Inc., 1969 Vol. -, Pg. 288, 1969.

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether - CAS: 143-22-6

a) acute toxicity:

Test: LD50 - Route: Dermal - Species: Rabbit = 3.54 ml/kg - Source: American Industrial Hygiene Association Journal. Vol. 23, Pg. 95, 1962.

Test: LD50 - Route: Oral - Species: Rat = 5300 mg/kg - Source: Office of Toxic Substances Report. Vol. OTS,

Triethanol amine - CAS: 102-71-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Guinea pig = 2200 mg/kg - Source: "Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure," Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 Vol. -, Pg. 114, 1982.

Test: LD50 - Route: Oral - Species: Mouse = 5846 mg/kg - Source: Science Reports of the Research Institutes, Tohoku University, Series C: Medicine. Vol. 36(1-4), Pg. 10, 1989.

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

a) acute toxicity:

Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg

b) skin corrosion/irritation:

Test: Skin Irritant - Species: Rabbit Mild irritant

c) serious eye damage/irritation:

Test: Eye Irritant - Species: Rabbit Highly irritating

d) respiratory or skin sensitisation:

Test: Skin Sensitisation - Route: LLNA - Species: Mouse Sensitiser

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e) germ cell mutagenicity:

Test: Mutagenesis - Species: Salmonella Typhimurium Negative

If not differently specified, the information required in Regulation (EU) 2015/830 listed below must be considered as 'No data available':

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 36 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 88 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae = 15 mg/l - Duration h: 72

c) Bacteria toxicity:

Endpoint: EC50 - Species: activated sludge = mg/l

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

#### 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

### SECTION 14: Transport information

#### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

#### 14.2. UN proper shipping name

No data available

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

No data available

#### 14.4. Packing group

No data available

#### 14.5. Environmental hazards

No data available

#### 14.6. Special precautions for user

## Safety Data Sheet

No data available

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available

### SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) 2015/830

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII

Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

No restriction.

Restrictions related to the substances contained:

No restriction.

Where applicable, refer to the following regulatory provisions :

Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.

Regulation (EC) nr 648/2004 (detergents).

1999/13/EC (VOC directive)

Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):

No data available

15.2. Chemical safety assessment

No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H400 Very toxic to aquatic life.

Hazard class and hazard category	Code	Description
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3



## Safety Data Sheet

This safety data sheet has been completely updated in compliance to Regulation 2015/830.  
This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,  
Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van  
Nostrand Reinold  
CCNL - Appendix 1

- Ref. 1 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC:  
International Agency for Research on Cancer)  
·Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))  
·TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)  
·IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)  
·National Toxicology Program (NTP) Report on Carcinogens  
·Annex VI of 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  
·MAK und BAT Werte Liste (DFG: German Research Foundation)  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder  
reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)
- Ref. 2 ·Annex VI of 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  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder  
reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This Safety Data Sheet cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.

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LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Singlepack Magenta 16 DURABrite Ultra Ink
- 1.2. Relevant identified uses of the substance or mixture and uses advised against  
Recommended use:  
Ink for inkjet printing
- 1.3. Details of the supplier of the safety data sheet  
Company:  
EPSON EUROPE B.V.  
Azie building, Atlas ArenA, Hoogoorddreef 5, 1101 BA Amsterdam  
Zuidoost The Netherlands  
Phone number: +31-20-314-5000  
Competent person responsible for the safety data sheet:  
chemicals@epson-europe.com  
Date: 01/11/2016  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790

### SECTION 2: Hazards identification









- 2.1. Classification of the substance or mixture  
EC regulation criteria 1272/2008 (CLP)  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Adverse physicochemical, human health and environmental effects:  
No other hazards
- 2.2. Label elements  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Hazard pictograms:  
None  
Hazard statements:  
None  
Precautionary statements:  
None  
Special Provisions:  
EUH210 Safety data sheet available on request.  
EUH208 Contains 2,4,7,9-tetramethyldec-5-yne-4,7-diol. May produce an allergic reaction.  
EUH208 Contains 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one. May produce an allergic reaction.  
Special provisions according to Annex XVII of REACH and subsequent amendments:  
None
- 2.3. Other hazards  
vPvB Substances: None - PBT Substances: None  
Other Hazards:  
No other hazards

### SECTION 3: Composition/information on ingredients

- 3.1. Substances  
No
- 3.2. Mixtures

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Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
65% ~ 80%	Water	CAS: 7732-18-5 EC: 231-791-2	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
7% ~ 10%	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1% ~ 3%	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether	Index number: 603-183-00-0 CAS: 143-22-6 EC: 205-592-6 REACH No.: 01-21194751 07-38	 3.3/1 Eye Dam. 1 H318
1% ~ 3%	Triethanol amine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.25% ~ 0.5%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
< 0.05%	1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	Index number: 613-088-00-6 CAS: 2634-33-5 EC: 220-120-9	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.3/1 Eye Dam. 1 H318  3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317  4.1/A1 Aquatic Acute 1 H400

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

Treatment:

None

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media:

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Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

### SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

### SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

None in particular

### SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol - CAS: 56-81-5

- OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup> - Notes: PEL, as mist, respirable fraction

- OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup> - Notes: PEL, as mist, total dust

DNEL Exposure Limit Values

No data available

PNEC Exposure Limit Values

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether -

CAS: 143-22-6

Target: Fresh Water - Value: 1.5 mg/l

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Target: Freshwater sediments - Value: 5.77 mg/kg  
 Target: Marine water - Value: 0.15 mg/l  
 Target: Marine water sediments - Value: 0.13 mg/kg  
 Target: Microorganisms in sewage treatments - Value: 200 mg/l  
 2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3  
 Target: Fresh Water - Value: 0.04 mg/l  
 Target: Marine water - Value: 0.004 mg/l  
 Target: Freshwater sediments - Value: 0.32 mg/kg  
 Target: Marine water sediments - Value: 0.032 mg/kg

### 8.2. Exposure controls

Eye protection:  
 Not needed for normal use. Anyway, operate according good working practices.  
 Protection for skin:  
 No special precaution must be adopted for normal use.  
 Protection for hands:  
 Not needed for normal use.  
 Respiratory protection:  
 Not needed for normal use.  
 Thermal Hazards:  
 None  
 Environmental exposure controls:  
 None  
 Appropriate engineering controls:  
 None

## SECTION 9: Physical and chemical properties

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

Appearance and colour:	Magenta Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	8.7 ~ 9.7 at 20 °C
Melting point / freezing point:	-15.4 °C
Initial boiling point and boiling range:	No data available
Solid/gas flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour density:	No data available
Flash point:	Does not flash until 100 °C / 212 ° F (closed cup method, ASTM D 3278)
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	1.060 at 20 °C
Solubility in water:	Complete
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Explosive properties:	No data available
Oxidizing properties:	No data available

### 9.2. Other information

Miscibility:	No data available
Fat Solubility:	No data available
Conductivity:	No data available

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### SECTION 10: Stability and reactivity

- 10.1. Reactivity  
Stable under normal conditions
- 10.2. Chemical stability  
Stable under normal conditions
- 10.3. Possibility of hazardous reactions  
None
- 10.4. Conditions to avoid  
Stable under normal conditions.
- 10.5. Incompatible materials  
None in particular.
- 10.6. Hazardous decomposition products  
None.

### SECTION 11: Toxicological information

- 11.1. Information on toxicological effects  
Toxicological information of the mixture:  
No data available  
Toxicological information of the main substances found in the mixture:  
Glycerol - CAS: 56-81-5
  - a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Guinea pig = 7750 mg/kg - Source: Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941  
Test: LDLo - Route: Oral - Species: Human = 1428 mg/kg - Source: "Toxicology of Drugs and Chemicals," Deichmann, W.B., New York, Academic Press, Inc., 1969Vol. -, Pg. 288, 1969. - Notes: BEHAVIORAL: HEADACHE  
GASTROINTESTINAL: NAUSEA OR VOMITING
- 2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether - CAS: 143-22-6
  - a) acute toxicity:  
Test: LD50 - Route: Dermal - Species: Rabbit = 3.54 ml/kg - Source: American Industrial Hygiene Association Journal. Vol. 23, Pg. 95, 1962.  
Test: LD50 - Route: Oral - Species: Rat = 5300 mg/kg - Source: Office of Toxic Substances Report. Vol. OTS,
- Triethanol amine - CAS: 102-71-6
  - a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Guinea pig = 2200 mg/kg - Source: "Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure," Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982Vol. -, Pg. 114, 1982.  
Test: LD50 - Route: Oral - Species: Mouse = 5846 mg/kg - Source: Science Reports of the Research Institutes, Tohoku University, Series C: Medicine. Vol. 36(1-4), Pg. 10, 1989. - Notes: GASTROINTESTINAL: "HYPERMOTILITY, DIARRHEA" KIDNEY, URETER, AND BLADDER: OTHER CHANGES  
BEHAVIORAL: CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD
- 2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3
  - a) acute toxicity:  
Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg - Notes: OECD TG No.402
  - b) skin corrosion/irritation:  
Test: Skin Irritant - Species: Rabbit Mild irritant - Notes: OECD TG No.404
  - c) serious eye damage/irritation:  
Test: Eye Irritant - Species: Rabbit Highly irritating - Notes: EPA OTS 798.4500
  - d) respiratory or skin sensitisation:

## Safety Data Sheet

- Test: Skin Sensitisation - Route: LLNA - Species: Mouse Sensitiser - Notes: OECD TG No.429
- e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium Negative - Notes: OECD TG No.471

If not differently specified, the information required in Regulation (EU) 2015/830 listed below must be considered as 'No data available':

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

##### a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 36 mg/l - Duration h: 96 - Notes: OECD TG No.203

Endpoint: EC50 - Species: Daphnia = 88 mg/l - Duration h: 48 - Notes: OECD TG No.202

Endpoint: EC50 - Species: Algae = 15 mg/l - Duration h: 72 - Notes: OECD TG No.201

##### c) Bacteria toxicity:

Endpoint: EC50 - Species: activated sludge = mg/l - Notes: OECD TG No.209

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

#### 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

### SECTION 14: Transport information

#### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

#### 14.2. UN proper shipping name

No data available

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

No data available

#### 14.4. Packing group



## Safety Data Sheet

- No data available
- 14.5. Environmental hazards  
No data available
- 14.6. Special precautions for user  
No data available
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
No data available

### SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
- Dir. 98/24/EC (Risks related to chemical agents at work)
  - Dir. 2000/39/EC (Occupational exposure limit values)
  - Regulation (EC) n. 1907/2006 (REACH)
  - Regulation (EC) n. 1272/2008 (CLP)
  - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
  - Regulation (EU) 2015/830
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  - Regulation (EU) n. 487/2013 (ATP 4 CLP)
  - Regulation (EU) n. 944/2013 (ATP 5 CLP)
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No restriction.
  - Restrictions related to the substances contained:  
No restriction.
- Where applicable, refer to the following regulatory provisions :
- Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
  - Regulation (EC) nr 648/2004 (detergents).
  - 1999/13/EC (VOC directive)
- Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):  
No data available
- 15.2. Chemical safety assessment  
No

### SECTION 16: Other information

- Full text of phrases referred to in Section 3:
- H318 Causes serious eye damage.
  - H317 May cause an allergic skin reaction.
  - H412 Harmful to aquatic life with long lasting effects.
  - H302 Harmful if swallowed.
  - H315 Causes skin irritation.
  - H400 Very toxic to aquatic life.

Hazard class and hazard category	Code	Description
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B

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Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

This safety data sheet has been completely updated in compliance to Regulation 2015/830. This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

CCNL - Appendix 1

Insert further consulted bibliography

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GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Singlepack Yellow 16 DURABrite Ultra Ink
- 1.2. Relevant identified uses of the substance or mixture and uses advised against  
Recommended use:  
Ink for inkjet printing
- 1.3. Details of the supplier of the safety data sheet  
Company:  
EPSON EUROPE B.V.  
Azie building, Atlas ArenA, Hoogoorddreef 5, 1101 BA Amsterdam  
Zuidoost The Netherlands  
Phone number: +31-20-314-5000  
Competent person responsible for the safety data sheet:  
chemicals@epson-europe.com  
Date: 11/05/2017  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790

### SECTION 2: Hazards identification









- 2.1. Classification of the substance or mixture  
EC regulation criteria 1272/2008 (CLP)  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Adverse physicochemical, human health and environmental effects:  
No other hazards
- 2.2. Label elements  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Hazard pictograms:  
None  
Hazard statements:  
None  
Precautionary statements:  
None  
Special Provisions:  
EUH210 Safety data sheet available on request.  
EUH208 Contains 2,4,7,9-tetramethyldec-5-yne-4,7-diol. May produce an allergic reaction.  
EUH208 Contains 1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one. May produce an allergic reaction.  
Special provisions according to Annex XVII of REACH and subsequent amendments:  
None
- 2.3. Other hazards  
vPvB Substances: None - PBT Substances: None  
Other Hazards:  
No other hazards

### SECTION 3: Composition/information on ingredients

- 3.1. Substances  
No
- 3.2. Mixtures

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Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
65% ~ 80%	Water	CAS: 7732-18-5 EC: 231-791-2	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
12.5% ~ 15%	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1% ~ 3%	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether	Index number: 603-183-00-0 CAS: 143-22-6 EC: 205-592-6 REACH No.: 01-21194751 07-38	 3.3/1 Eye Dam. 1 H318
1% ~ 3%	Triethanol amine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.25% ~ 0.5%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
< 0.05%	1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	Index number: 613-088-00-6 CAS: 2634-33-5 EC: 220-120-9	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.3/1 Eye Dam. 1 H318  3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317  4.1/A1 Aquatic Acute 1 H400

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

None

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

Treatment:

None

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media:

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Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

### SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

### SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

None in particular

### SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol - CAS: 56-81-5

- OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup>

- OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup>

DNEL Exposure Limit Values

No data available

PNEC Exposure Limit Values

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether -

CAS: 143-22-6

Target: Fresh Water - Value: 1.5 mg/l

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Target: Freshwater sediments - Value: 5.77 mg/kg  
Target: Marine water - Value: 0.15 mg/l  
Target: Marine water sediments - Value: 0.13 mg/kg  
Target: Microorganisms in sewage treatments - Value: 200 mg/l  
2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3  
Target: Fresh Water - Value: 0.04 mg/l  
Target: Marine water - Value: 0.004 mg/l  
Target: Freshwater sediments - Value: 0.32 mg/kg  
Target: Marine water sediments - Value: 0.032 mg/kg

### 8.2. Exposure controls

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Not needed for normal use.

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

## SECTION 9: Physical and chemical properties

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

Appearance and colour:	Yellow Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	8.5 ~ 9.5 at 20 °C
Melting point / freezing point:	No data available
Initial boiling point and boiling range:	No data available
Solid/gas flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour density:	No data available
Flash point:	No data available
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	1.067 at 20 °C
Solubility in water:	Complete
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Explosive properties:	No data available
Oxidizing properties:	No data available

### 9.2. Other information

Miscibility:	No data available
Fat Solubility:	No data available
Conductivity:	No data available

## SECTION 10: Stability and reactivity

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- 10.1. Reactivity  
Stable under normal conditions
- 10.2. Chemical stability  
Stable under normal conditions
- 10.3. Possibility of hazardous reactions  
None
- 10.4. Conditions to avoid  
Stable under normal conditions.
- 10.5. Incompatible materials  
None in particular.
- 10.6. Hazardous decomposition products  
None.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Toxicological information of the mixture:

f) carcinogenicity:

Does not contain carcinogens (Ref. 1)

g) reproductive toxicity:

Does not contain reproductive toxicity and developmental toxic substances (Ref. 2)

Toxicological information of the main substances found in the mixture:

Glycerol - CAS: 56-81-5

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Guinea pig = 7750 mg/kg - Source: Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941

Test: LDLo - Route: Oral - Species: Human = 1428 mg/kg - Source: "Toxicology of Drugs and Chemicals," Deichmann, W.B., New York, Academic Press, Inc., 1969 Vol. -, Pg. 288, 1969.

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether - CAS: 143-22-6

a) acute toxicity:

Test: LD50 - Route: Dermal - Species: Rabbit = 3.54 ml/kg - Source: American Industrial Hygiene Association Journal. Vol. 23, Pg. 95, 1962.

Test: LD50 - Route: Oral - Species: Rat = 5300 mg/kg - Source: Office of Toxic Substances Report. Vol. OTS,

Triethanol amine - CAS: 102-71-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Guinea pig = 2200 mg/kg - Source: "Toxicometric Parameters of Industrial Toxic Chemicals Under Single Exposure," Izmerov, N.F., et al., Moscow, Centre of International Projects, GKNT, 1982 Vol. -, Pg. 114, 1982.

Test: LD50 - Route: Oral - Species: Mouse = 5846 mg/kg - Source: Science Reports of the Research Institutes, Tohoku University, Series C: Medicine. Vol. 36(1-4), Pg. 10, 1989.

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

a) acute toxicity:

Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg

b) skin corrosion/irritation:

Test: Skin Irritant - Species: Rabbit Mild irritant

c) serious eye damage/irritation:

Test: Eye Irritant - Species: Rabbit Highly irritating

d) respiratory or skin sensitisation:

Test: Skin Sensitisation - Route: LLNA - Species: Mouse Sensitiser

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e) germ cell mutagenicity:

Test: Mutagenesis - Species: Salmonella Typhimurium Negative

If not differently specified, the information required in Regulation (EU) 2015/830 listed below must be considered as 'No data available':

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

2,4,7,9-tetramethyldec-5-yne-4,7-diol - CAS: 126-86-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 36 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 88 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae = 15 mg/l - Duration h: 72

c) Bacteria toxicity:

Endpoint: EC50 - Species: activated sludge = mg/l

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

#### 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

### SECTION 14: Transport information

#### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

#### 14.2. UN proper shipping name

No data available

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

No data available

#### 14.4. Packing group

No data available

#### 14.5. Environmental hazards

No data available

#### 14.6. Special precautions for user



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No data available

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available

### SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) 2015/830

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII

Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

No restriction.

Restrictions related to the substances contained:

No restriction.

Where applicable, refer to the following regulatory provisions :

Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.

Regulation (EC) nr 648/2004 (detergents).

1999/13/EC (VOC directive)

Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):

No data available

15.2. Chemical safety assessment

No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H400 Very toxic to aquatic life.

Hazard class and hazard category	Code	Description
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Skin Sens. 1,1A,1B	3.4.2/1-1A-1B	Skin Sensitisation, Category 1,1A,1B
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

## Safety Data Sheet

This safety data sheet has been completely updated in compliance to Regulation 2015/830.  
This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,  
Commission of the European Communities  
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van  
Nostrand Reinold  
CCNL - Appendix 1

- Ref. 1 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC:  
International Agency for Research on Cancer)  
·Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))  
·TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)  
·IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)  
·National Toxicology Program (NTP) Report on Carcinogens  
·Annex VI of 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  
·MAK und BAT Werte Liste (DFG: German Research Foundation)  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder  
reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)
- Ref. 2 ·Annex VI of 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  
·TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder  
reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This Safety Data Sheet cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.

## Safety Data Sheet

LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.

## Material Safety Data Sheet

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

- 1.1. Product identifier:** EPSON Ink cartridge T0481
- 1.2. Relevant identified uses of the substance or mixture and uses advised against:**  
Identified uses; Ink for Inkjet Printing
- 1.3. Details of the supplier of the safety data sheet:**  
**Distributor:** EPSON EUROPE B.V.  
**Address:** Azie building, Atlas ArenA, Hoogoorddreef  
 5,1101 BA Amsterdam  
 Zuidoost The Netherlands  
[www.epson-europe.com](http://www.epson-europe.com)  
**TEL:** +31-20-314-5000 **FAX:** +31-20-314-5100  
**e-mail:** [chemicals@epson-europe.com](mailto:chemicals@epson-europe.com)  
**Date Prepared:** 30 May 2012  
**Revision:** A
- 1.4. Emergency telephone number:** Giftnotruf Berlin +49 030 19240

### SECTION 2: Hazards identification

- 2.1. Classification of the mixture:**  
Classification (1999/45/EC); Not Classified
- 2.2. Label elements:** Label in Accordance with 1999/45/EC  
**Symbol(s);** None  
**Indication(s) of danger;** None  
**Risk phrase;** None  
**Safety advice;** None
- 2.3. Other hazards:**  
Classification (PBT,vPvB(EC)No1907/2006); No data available

### SECTION 3: Composition/information on ingredients

#### Substance / Mixture: Mixture (Ink Composition)

Ink Composition	CAS No.	EEC No.	EU registration No.	% By Weight	EU Symbols	EU R-phrase	EU OELs	Remark
Water	7732-18-5	231-791-2	Exemption	< 80	None	None	None	None
Glycerols	Trade secret	Trade secret	Not available for the moment	5 - 10	None	None	None	None
Proprietary organic materials	Trade secret	Trade secret	Not available for the moment	5 - 10	None	None	None	None
Colorants	Trade secret	Trade secret	Not available for the moment	5 - 10	None	None	None	None
TEGBE	143-22-6	205-592-6	Not available for the moment	5 - 10	Xi	R-41	None	None
Triethanolamine	102-71-6	203-049-8	Not available for the moment	< 1	None	None	None	None

Please refer to the section 16, where the full text of each relevant R-phrase.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**4.1.1. Eyes :** Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Seek medical attention if eye irritation continues.

**4.1.2. Skin :** Wash surface areas with soap and water. Wash soiled clothing before wearing again. Consult a physician if irritation continues.

**4.1.3. Inhalation :** Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen. Seek immediate medical attention.

**4.1.4. Ingestion :** Seek medical advice; and attention if stomach continues to be upset.

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

Skin: Ink contact with skin may cause irritation, swelling or redness.

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

 Not necessary

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing Media

**5.1.1. Suitable extinguishing media:** Dry chemical, carbon dioxide or water.

**5.1.2. Unsuitable extinguishing media:** None

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

 None

**5.3. Advice for firefighters:** No special fire fighting procedures are required other than breathing apparatus. No special explosion hazards are known.

## SECTION 6: Accidental release measures

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

**6.1.1. For non-emergency personnel:** Eye or Skin protection required during clean-up. Use proper ventilation.

**6.1.2. For emergency responders:** None

### 6.2. Environmental precautions:

 Do not release to sewer, surface- or ground-water.

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

**6.3.1. Advice on how to contain a spill:** Use sponges to wipe-up ink.

**6.3.2. Advice how to clean-up a spill:** Rinse area with damp cloth. Place waste in closed container for disposal. Wash hands with soap and water.

**6.3.3. Any other information:** Do not dispose of waste to the sewer.

### 6.4. Reference to other sections:

 None

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**7.1.1. Recommendations:** Keep out of reach of children and do not drink ink. Do not dismantle cartridge.

### 7.1.2. Advice on general occupational hygiene:

Avoid contact with eyes or clothing. In the case of skin contact, wash with soap and water.

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

Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store cartridges with oxidizing agents or explosives. Make sure cartridge is dry before insertion into printer housing.

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

 Not specified

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters:

 Not established

### 8.2. Exposure Controls

**8.2.1. Appropriate engineering controls:** Proper ventilation, in prevention

### 8.2.2. Individual protection measures, such as personal protective equipment

#### 8.2.2.1. Use of personal protective equipment:

Not required under suitable use as setting the cartridge on the printer.

#### 8.2.2.2. Detailed specification on equipment to provide adequate and suitable protection

**(a) eye/face protection:** Not required under suitable use as setting the cartridge on the printer.

#### **(b) skin protection: hand protection & others:**

Not required under suitable use as setting the cartridge on the printer.

**(c) respiratory protection:** Not required under suitable use as setting the cartridge on the printer.

**(d) thermal hazards:** Not required under suitable use as setting the cartridge on the printer.

### 8.2.3. Environmental exposure controls:

 Not established

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties:**

<i>Appearance:</i>	Black liquid
<i>Odour:</i>	Slightly
<i>Odour threshold:</i>	No data available
<i>pH:</i>	about 8.5 at 20°C
<i>Melting point / freezing point:</i>	No data available
<i>Initial boiling point and boiling range:</i>	No data available
<i>Flash point:</i>	Not detected until 100°C (Closed cup, ASTM D3278)
<i>Evaporation rate:</i>	No data available
<i>Flammability (solid, gas):</i>	Not applicable (liquid)
<i>Upper/lower flammability or explosive limits:</i>	No data available
<i>Vapor pressure:</i>	No data available
<i>Vapor density:</i>	No data available
<i>Relative density:</i>	1.07 at 20°C
<i>Solubility(ies):</i>	Complete
<i>Partition coefficient: n-octanol/water:</i>	No data available
<i>Auto-ignition temperature:</i>	No data available
<i>Decomposition temperature:</i>	No data available
<i>Viscosity:</i>	Less than 5 mPa·s at 20°C
<i>Explosive properties:</i>	None
<i>Oxidizing properties:</i>	None
<b>9.2. Other information:</b>	None

**SECTION 10: Stability and reactivity**

<b>10.1. Reactivity:</b>	Stable under normal temperature
<b>10.2. Chemical stability:</b>	Stable under normal temperature
<b>10.3. Possibility of hazardous reactions:</b>	None
<b>10.4. Conditions to avoid:</b>	High and freezing temperatures
<b>10.5. Incompatible materials:</b>	Oxidizers and explosives
<b>10.6. Hazardous decomposition products:</b>	No data available

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects:**

<i>Acute toxicity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC
	Oral LD <sub>50</sub> : >2500mg/kg (Rats)
	Dermal LD <sub>50</sub> : >2000mg/kg (Rats)
	Inhalant LC <sub>50</sub> : Not applicable
<i>Irritation</i>	<i>Eye:</i> Not meet the criteria for classification according to EU Directive 1999/45/EC Minimal irritating (Rabbits, OECD 405)
	<i>Skin:</i> Not meet the criteria for classification according to EU Directive 1999/45/EC Mild irritating (Rabbits, OECD 404)
<i>Corrosivity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC
<i>Sensitisation</i>	<i>Skin:</i> Not meet the criteria for classification according to EU Directive 1999/45/EC Non-sensitizing
<i>Carcinogenicity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC Not contain any substances listed in IARC Monographs (1,2A and 2B)
<i>Mutagenicity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC Negative (by Ames Test)
<i>Toxicity for reproduction:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC

**SECTION 12: Ecological information**

<b>12.1. Toxicity:</b>	No data available
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- 12.2. Persistence and degradability:** No data available  
**12.3. Bioaccumulative potential:** No data available  
**12.4. Mobility in soil:** No data available  
**12.5. Results of PBT and vPvB assessment:** Has not carried out PBT and vPvB assessment  
**12.6. Other adverse effects:** No data available

**SECTION 13: Disposal considerations**

- 13.1. Waste treatment methods:** Disposal should be in accordance with federal, state, and local requirements.

**SECTION 14: Transport information**

- 14.1. UN number:** Not applicable  
**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:** Not applicable  
**14.6. Special precautions for user:** Not applicable  
**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:**

*EU Information:*

Regulation (EC) No 2037/2000:	Is not subject
Regulation (EC) No 850/2004:	Is not subject
Regulation (EC) No 689/2008:	Is not subject

*US Information:*

TSCA Section 4(a) Final Test Rules Regulated:	Not regulated
TSCA Section 5 Significant New Use Rule Regulation:	Not regulated
TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR):	Not regulated
TSCA Section 12(b) One-Time Export Notification Regulated:	Not regulated
California Proposition 65:	Not regulated

*Canada Information:*

WHMIS Controlled Product:	Not applicable (Manufactured article)
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*Australia Information:*

Statement of Hazardous Nature:	Not classified as hazardous according to criteria of NOHSC
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- 15.2. Chemical safety assessment:** This ink has not carried out any Chemical Safety Assessment yet.

**SECTION 16: Other information**

<i>List of relevant R-phrases:</i>	R-41	Risk of serious damage to eyes.
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*This "Material Safety Data Sheet" contains health, safety, and environmental information. It does not replace any precautionary language or use and disposal information which accompanies the product. The information contained herein is believed to be accurate at the time of preparation, but should only be used as a guide. It is subject to revision from time to time. EPSON does not warrant the completeness or accuracy of the information contained herein.*

## Material Safety Data Sheet

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

- 1.1. Product identifier:** EPSON Ink Cartridge T0485
- 1.2. Relevant identified uses of the substance or mixture and uses advised against:**  
Identified uses; Ink for Inkjet Printing
- 1.3. Details of the supplier of the safety data sheet:**  
**Distributor:** EPSON EUROPE B.V.  
**Address:** Azie building, Atlas ArenA, Hoogoorddreef  
 5,1101 BA Amsterdam  
 Zuidoost The Netherlands  
[www.epson-europe.com](http://www.epson-europe.com)  
**TEL:** +31-20-314-5000 **FAX:** +31-20-314-5100  
**e-mail:** [chemicals@epson-europe.com](mailto:chemicals@epson-europe.com)  
**Date Prepared:** 30 May 2012  
**Revision:** A
- 1.4. Emergency telephone number:** Giftnotruf Berlin +49 030 19240

### SECTION 2: Hazards identification

- 2.1. Classification of the mixture:**  
Classification (1999/45/EC); Not Classified
- 2.2. Label elements:** Label in Accordance with 1999/45/EC  
**Symbol(s);** None  
**Indication(s) of danger;** None  
**Risk phrase;** None  
**Safety advice;** None
- 2.3. Other hazards:**  
Classification (PBT,vPvB (EC)No1907/2006); No data available

### SECTION 3: Composition/information on ingredients

#### Substance / Mixture: Mixture (Ink Composition)

Ink Composition	CAS No.	EEC No.	EU registration No.	% By Weight	EU Symbols	EU R-phrase	EU OELs	Remark
Water	7732-18-5	231-791-2	Exemption	< 80	None	None	None	None
Proprietary organic materials	Trade secret	Trade secret	Not available for the moment	15 - 20	None	None	None	None
Glycerols	Trade secret	Trade secret	Not available for the moment	About 10	None	None	None	None
TEGBE	143-22-6	205-592-6	Not available for the moment	5 - 10	X <sub>i</sub>	R-41	None	None
Colorants	Trade secret	Trade secret	Not available for the moment	1 - 5	None	None	None	None
Triethanolamine	102-71-6	203-049-8	Not available for the moment	< 1	None	None	None	None

Please refer to the section 16, where the full text of each relevant R-phrase.



## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**4.1.1. Eyes :** Immediately flush with room temperature, low pressure and clean water for at least 15 minutes.

Seek medical attention if eye irritation continues.

**4.1.2. Skin :** Wash surface areas with soap and water. Wash soiled clothing before wearing again.

Consult a physician if irritation continues.

**4.1.3. Inhalation :** Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away.

If breathing is difficult, give oxygen. Seek immediate medical attention.

**4.1.4. Ingestion :** Seek medical advice; and attention if stomach continues to be upset.

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

Skin: Ink contact with skin may cause irritation, swelling or redness.

### 4.3. Indication of any immediate medical attention and special treatment needed: Not necessary

## SECTION 5: Fire-fighting measures

### 5.1. Extinguishing Media

**5.1.1. Suitable extinguishing media:** Dry chemical , carbon dioxide or water.

**5.1.2. Unsuitable extinguishing media:** None

### 5.2. Special hazards arising from the substance or mixture: None

**5.3. Advice for firefighters:** No special fire fighting procedures are required other than breathing apparatus.

No special explosion hazards are known.

## SECTION 6: Accidental release measures

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

**6.1.1. For non-emergency personnel:** Eye or Skin protection required during clean-up. Use proper ventilation.

**6.1.2. For emergency responders:** None

### 6.2. Environmental precautions: Do not release to sewer, surface- or ground-water.

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

**6.3.1. Advice on how to contain a spill:** Use sponges to wipe-up ink.

**6.3.2. Advice how to clean-up a spill:** Rinse area with damp cloth. Place waste in closed container for disposal.

Wash hands with soap and water.

**6.3.3. Any other information:** Do not dispose of waste to the sewer.

### 6.4. Reference to other sections: None

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**7.1.1. Recommendations:** Keep out of reach of children and do not drink ink. Do not dismantle cartridge.

### 7.1.2. Advice on general occupational hygiene:

Avoid contact with eyes or clothing. In the case of skin contact, wash with soap and water.

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

Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store cartridges with oxidizing agents or explosives. Make sure cartridge is dry before insertion into printer housing.

### 7.3. Specific end use(s): Not specified

## SECTION 8: Exposure controls / personal protection

**8.1. Control parameters:** Not established

### 8.2. Exposure Controls

**8.2.1. Appropriate engineering controls:** Proper ventilation, in prevention

### 8.2.2. Individual protection measures, such as personal protective equipment

#### 8.2.2.1. Use of personal protective equipment:

Not required under suitable use as setting the cartridge on the printer.

#### 8.2.2.2. Detailed specification on equipment to provide adequate and suitable protection

**(a) eye/face protection:** Not required under suitable use as setting the cartridge on the printer.

**(b) skin protection: hand protection & others:**

Not required under suitable use as setting the cartridge on the printer.

**(c) respiratory protection:** Not required under suitable use as setting the cartridge on the printer.

- (d) *thermal hazards:* Not required under suitable use as setting the cartridge on the printer.  
8.2.3. *Environmental exposure controls:* Not established

## SECTION 9: Physical and chemical properties

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

<i>Appearance:</i>	Cyan Liquid
<i>Odour:</i>	Slightly
<i>Odour threshold:</i>	No data available
<i>pH:</i>	about 9.0 at 20°C
<i>Melting point / freezing point:</i>	No data available
<i>Initial boiling point and boiling range:</i>	No data available
<i>Flash point:</i>	Not detected until 100°C (Closed cup, ASTM D3278)
<i>Evaporation rate:</i>	No data available
<i>Flammability (solid, gas):</i>	Not applicable (liquid)
<i>Upper/lower flammability or explosive limits:</i>	No data available
<i>Vapor pressure:</i>	No data available
<i>Vapor density:</i>	No data available
<i>Relative density:</i>	1.058 at 20°C
<i>Solubility(ies):</i>	Complete
<i>Partition coefficient: n-octanol/water:</i>	No data available
<i>Auto-ignition temperature:</i>	No data available
<i>Decomposition temperature:</i>	No data available
<i>Viscosity:</i>	Less than 5 mPa·s at 20°C
<i>Explosive properties:</i>	None
<i>Oxidizing properties:</i>	None
<b>9.2. Other information:</b>	None

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity:</b>	Stable under normal temperature
<b>10.2. Chemical stability:</b>	Stable under normal temperature
<b>10.3. Possibility of hazardous reactions:</b>	None
<b>10.4. Conditions to avoid:</b>	High and freezing temperatures
<b>10.5. Incompatible materials:</b>	Oxidizers and explosives
<b>10.6. Hazardous decomposition products:</b>	No data available

## SECTION 11: Toxicological Information

### 11.1. Information on toxicological effects:

<i>Acute toxicity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC
Oral LD <sub>50</sub> :	> 2500mg/kg (Rats)
Dermal LD <sub>50</sub> :	> 2000mg/kg (Rats)
Inhalant LC <sub>50</sub> :	Not applicable
<i>Irritation:</i>	
<i>Eye:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC Minimal irritating (Rabbits, OECD 405)
<i>Skin:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC Non-irritating (Rabbits, OECD 404)
<i>Corrosivity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC
<i>Sensitisation:</i>	<i>Skin:</i> Not meet the criteria for classification according to EU Directive 1999/45/EC Non-sensitizing
<i>Carcinogenicity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC Not contain any substances listed in IARC Monographs (1,2A and 2B)
<i>Mutagenicity:</i>	Not meet the criteria for classification according to EU Directive 1999/45/EC Negative (by Ames Test)

*Toxicity for reproduction:* Not meet the criteria for classification according to EU Directive 1999/45/EC

**SECTION 12: Ecological information**

- 12.1. Toxicity:** No data available
- 12.2. Persistence and degradability:** No data available
- 12.3. Bioaccumulative potential:** No data available
- 12.4. Mobility in soil:** No data available
- 12.5. Results of PBT and vPvB assessment:** Has not carried out PBT and vPvB assessment
- 12.6. Other adverse effects:** No data available

**SECTION 13: Disposal considerations**

- 13.1. Waste treatment methods:** Disposal should be in accordance with federal, state, and local requirements.

**SECTION 14: Transport information**

- 14.1. UN number:** Not applicable
- 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:** Not applicable
- 14.6. Special precautions for user:** Not applicable
- 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:**

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- Regulation (EC) No 850/2004: Is not subject
- Regulation (EC) No 689/2008: Is not subject

*US Information:*

- TSCA Section 4(a) Final Test Rules Regulated: Not regulated
- TSCA Section 5 Significant New Use Rule Regulation: Not regulated
- TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated
- TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated
- California Proposition 65: Not regulated

*Canada Information:*

- WHMIS Controlled Product: Not applicable (Manufactured article)

*Australia Information:*

- Statement of Hazardous Nature: Not classified as hazardous according to criteria of NOHSC

**15.2. Chemical safety assessment:** This ink has not carried out any Chemical Safety Assessment yet.

**SECTION 16: Other Information**

- List of relevant R-phrases:* R-41 Risk of serious damage to eyes.

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