

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

1.1. Product identifier

Mixture identification:

Trade name: Ink, T10H2

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.eu

Date: 20/10/2020

Revision: 3.0

1.4. Emergency telephone number

Phone number: +31-20-314-5000

United Kingdom; 01952 607111 Monday to Friday 9am to 5:30pm.

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department.

Ireland; +353 (01) 809 2566 or +353 (01) 809 2166

Malta; 2545 0000 or 21224071

**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.

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

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

Qty	Name	Ident. Number	Classification
50% ~ 65%	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).
7% ~ 10%	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 Specific Concentration Limits: C >= 30%: Eye Dam. 1 H318 20% <= C < 30%: Eye Irrit. 2 H319
1% ~ 3%	E-C104	EC: 700-815-8 REACH No.: 01-21199296 31-38	4.1/C3 Aquatic Chronic 3 H412
0.1% ~ 0.25%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1 REACH No.: 01-21199543 90-39	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
0.1% ~ 0.25%	Triethanolamine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

**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:

Water.

Carbon dioxide (CO2).

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.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Do not eat or drink while working.

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 - TWA: 5 mg/m<sup>3</sup> - Notes: Respirable dust

- OEL Type: OSHA - TWA: 15 mg/m<sup>3</sup> - Notes: Total dust

Triethanolamine - CAS: 102-71-6

- OEL Type: ACGIH - TWA(8h): 5 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  
 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

8.2.1. Appropriate engineering controls:

None

8.2.2. Individual protection measures, such as personal protective equipment

Eye protection:

Use personal protective equipment as required.

Protection for skin:

Use personal protective equipment as required.

Protection for hands:

Use personal protective equipment as required.

Respiratory protection:

Use personal protective equipment as required.

Thermal Hazards:

None

8.2.3. 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:	8.1 ~ 9.1 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:	> 100 °C / 212 ° F
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	No data available
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**

- 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 product:
  - e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli  
Negative
  - 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 product:
  - 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.
  - 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, E-C104
    - a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg  
Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg  
Test: LC50 - Route: Inhalation Dust - Species: Rat > 5 mg/l
    - b) skin corrosion/irritation:  
Test: Skin Irritant - Species: Rabbit Non-irritant
    - c) serious eye damage/irritation:  
Test: Eye Irritant - Species: Rabbit Minimal irritant
    - d) respiratory or skin sensitisation:  
Test: Skin Sensitisation - Route: LLNA - Species: Mouse Non-sensitiser

- e) germ cell mutagenicity:
    - Test: Genotoxicity Negative
    - Test: Mutagenesis - Route: Dermal - Species: Salmonella Typhimurium and Escherichia coli Negative
  - g) reproductive toxicity:
    - Test: Reproductive Toxicity - Route: Oral - Species: Rat No 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
  - e) germ cell mutagenicity:
    - Test: Mutagenesis - Species: Salmonella Typhimurium Negative
- Triethanolamine - 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.

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.

Toxicological information of the product:

No data available

Toxicological information of the main substances found in the product:

E-C104

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 97.9 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 60.7 mg/l - Duration h: 48

Endpoint: ErC50 - Species: Algae > 103 mg/l - Duration h: 72

f) Effects in sewage plants:

Endpoint: EC50 - Species: activated sludge > 100 mg/l - Duration h: 3

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 = 630 mg/l - Duration h: 0.5
- 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  
No data available
- 14.7. Transport in bulk according to Annex II of Marpol 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)
  - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
  - Regulation (EU) n. 2016/918 (ATP 8 CLP)
  - Regulation (EU) n. 2016/1179 (ATP 9 CLP)



Regulation (EU) n. 2017/776 (ATP 10 CLP)  
Regulation (EU) n. 2018/669 (ATP 11 CLP)  
Regulation (EU) n. 2018/1480 (ATP 13 CLP)  
Regulation (EU) n. 2019/521 (ATP 12 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 2012/18/EU (Seveso III)

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

Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

None

#### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

H317 May cause an allergic skin reaction.

Hazard class and hazard category	Code	Description
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

Paragraphs modified from the previous revision:

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

SECTION 3: Composition/information on ingredients

SECTION 6: Accidental release measures

SECTION 7: Handling and storage

SECTION 8: Exposure controls/personal protection

SECTION 11: Toxicological information

SECTION 12: Ecological information

SECTION 15: Regulatory information

SECTION 16: Other information

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

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 (USA)
  - 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.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
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.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.

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

1.1. Product identifier

Mixture identification:

Trade name: Ink, T10H3

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.eu

Date: 20/10/2020

Revision: 3.0

1.4. Emergency telephone number

Phone number: +31-20-314-5000

United Kingdom; 01952 607111 Monday to Friday 9am to 5:30pm.

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department.

Ireland; +353 (01) 809 2566 or +353 (01) 809 2166

Malta; 2545 0000 or 21224071

**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

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%	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 Specific Concentration Limits: C >= 30%: Eye Dam. 1 H318 20% <= C < 30%: Eye Irrit. 2 H319
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).
0.25% ~ 0.5%	Triethanolamine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.1% ~ 0.25%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1 REACH No.: 01-21199543 90-39	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
0.0015% ~ 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 Skin Sens. 1 H317  4.1/A1 Aquatic Acute 1 H400 Specific Concentration Limits: 0.005% <= C < 0.05%: EUH208 C >= 0.05%: Skin Sens. 1 H317

**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:

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.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Do not eat or drink while working.

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 - TWA: 5 mg/m<sup>3</sup> - Notes: Respirable dust
  - OEL Type: OSHA - TWA: 15 mg/m<sup>3</sup> - Notes: Total dust
- Triethanolamine - CAS: 102-71-6
  - OEL Type: ACGIH - TWA(8h): 5 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
    - 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

### 8.2.1. Appropriate engineering controls:

None

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

#### Eye protection:

Use personal protective equipment as required.

#### Protection for skin:

Use personal protective equipment as required.

#### Protection for hands:

Use personal protective equipment as required.

#### Respiratory protection:

Use personal protective equipment as required.

#### Thermal Hazards:

None

### 8.2.3. 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:	8.5 ~ 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:	> 100 °C / 212 ° F
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	No data available

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

- 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 product:
  - e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli  
Negative
  - 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 product:
  - 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,
  - 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.
  - Triethanolamine - 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.
- 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
- 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.

Toxicological information of the product:

No data available

Toxicological information of the main substances found in the product:

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 = 630 mg/l - Duration h: 0.5

### 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  
No data available
- 14.7. Transport in bulk according to Annex II of Marpol 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)
  - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
  - Regulation (EU) n. 2016/918 (ATP 8 CLP)
  - Regulation (EU) n. 2016/1179 (ATP 9 CLP)
  - Regulation (EU) n. 2017/776 (ATP 10 CLP)
  - Regulation (EU) n. 2018/669 (ATP 11 CLP)
  - Regulation (EU) n. 2018/1480 (ATP 13 CLP)
  - Regulation (EU) n. 2019/521 (ATP 12 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 2012/18/EU (Seveso III)
  - Regulation (EC) nr 648/2004 (detergents).
  - Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):  
Seveso III category according to Annex 1, part 1  
None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

**SECTION 16: Other information**

Full text of phrases referred to in Section 3:

- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- 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.
- EUH208 Contains (name of sensitising substance). May produce an allergic reaction.

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
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
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

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 3: Composition/information on ingredients
- SECTION 6: Accidental release measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 15: Regulatory information
- SECTION 16: Other information

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

- 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 (USA)
  - 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
- Ref. 2 ·MAK und BAT Werte Liste (DFG: German Research Foundation)
- TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)
- 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.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
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.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.

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

1.1. Product identifier

Mixture identification:

Trade name: Ink, T10H4

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.eu

Date: 20/10/2020

Revision: 3.0

1.4. Emergency telephone number

Phone number: +31-20-314-5000

United Kingdom; 01952 607111 Monday to Friday 9am to 5:30pm.

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department.

Ireland; +353 (01) 809 2566 or +353 (01) 809 2166

Malta; 2545 0000 or 21224071

**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

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%	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 Specific Concentration Limits: C >= 30%: Eye Dam. 1 H318 20% <= C < 30%: Eye Irrit. 2 H319
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).
0.25% ~ 0.5%	Triethanolamine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.1% ~ 0.25%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1 REACH No.: 01-21199543 90-39	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
0.0015% ~ 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 Skin Sens. 1 H317  4.1/A1 Aquatic Acute 1 H400 Specific Concentration Limits: 0.005% <= C < 0.05%: EUH208 C >= 0.05%: Skin Sens. 1 H317

**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:

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.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Do not eat or drink while working.

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 - TWA: 5 mg/m<sup>3</sup> - Notes: Respirable dust
  - OEL Type: OSHA - TWA: 15 mg/m<sup>3</sup> - Notes: Total dust
- Triethanolamine - CAS: 102-71-6
  - OEL Type: ACGIH - TWA(8h): 5 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
    - 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

8.2.1. Appropriate engineering controls:

None

8.2.2. Individual protection measures, such as personal protective equipment

Eye protection:

Use personal protective equipment as required.

Protection for skin:

Use personal protective equipment as required.

Protection for hands:

Use personal protective equipment as required.

Respiratory protection:

Use personal protective equipment as required.

Thermal Hazards:

None

8.2.3. 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 ~ 9 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:	> 100 °C / 212 ° F
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	No data available



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**

- 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 product:
    - e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli  
Negative
    - 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 product:  
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,  
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.  
Triethanolamine - 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.
- 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
- 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.

Toxicological information of the product:

No data available

Toxicological information of the main substances found in the product:

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 = 630 mg/l - Duration h: 0.5

### 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  
No data available
- 14.7. Transport in bulk according to Annex II of Marpol 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)
  - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
  - Regulation (EU) n. 2016/918 (ATP 8 CLP)
  - Regulation (EU) n. 2016/1179 (ATP 9 CLP)
  - Regulation (EU) n. 2017/776 (ATP 10 CLP)
  - Regulation (EU) n. 2018/669 (ATP 11 CLP)
  - Regulation (EU) n. 2018/1480 (ATP 13 CLP)
  - Regulation (EU) n. 2019/521 (ATP 12 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 2012/18/EU (Seveso III)
  - Regulation (EC) nr 648/2004 (detergents).
  - Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):  
Seveso III category according to Annex 1, part 1  
None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

**SECTION 16: Other information**

Full text of phrases referred to in Section 3:

- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- 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.
- EUH208 Contains (name of sensitising substance). May produce an allergic reaction.

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
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
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

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 6: Accidental release measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 15: Regulatory information
- SECTION 16: Other information

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

- 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 (USA)

- 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
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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.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
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.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.

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

1.1. Product identifier

Mixture identification:

Trade name: Ink, T10H1

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.eu

Date: 20/10/2020

Revision: 5.0

1.4. Emergency telephone number

Phone number: +31-20-314-5000

United Kingdom; 01952 607111 Monday to Friday 9am to 5:30pm.

Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department.

Ireland; +353 (01) 809 2566 or +353 (01) 809 2166

Malta; 2545 0000 or 21224071

**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.

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

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).
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).
5% ~ 7%	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
3% ~ 5%	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 Specific Concentration Limits: C >= 30%: Eye Dam. 1 H318 20% <= C < 30%: Eye Irrit. 2 H319
0.5% ~ 1%	Triethanolamine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.1% ~ 0.25%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1 REACH No.: 01-21199543-90-39	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412

**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:

Water.

Carbon dioxide (CO2).



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.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Do not eat or drink while working.

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

Carbon black - CAS: 1333-86-4

- OEL Type: ACGIH - TWA(8h): 3 mg/m<sup>3</sup>

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

- OEL Type: JSOH - TWA: 1 mg/m<sup>3</sup> - Notes: as Class 2 Dusts (Respirable dust)

- OEL Type: JSOH - TWA: 4 mg/m<sup>3</sup> - Notes: as Class 2 Dusts (Total dust)

- Notes: as total dust

Glycerol - CAS: 56-81-5

- OEL Type: OSHA - TWA: 5 mg/m<sup>3</sup> - Notes: Respirable dust

- OEL Type: OSHA - TWA: 15 mg/m<sup>3</sup> - Notes: Total dust

Triethanolamine - CAS: 102-71-6

- OEL Type: ACGIH - TWA(8h): 5 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
  - 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
  - 8.2.1. Appropriate engineering controls:  
None
  - 8.2.2. Individual protection measures, such as personal protective equipment
    - Eye protection:  
Use personal protective equipment as required.
    - Protection for skin:  
Use personal protective equipment as required.
    - Protection for hands:  
Use personal protective equipment as required.
    - Respiratory protection:  
Use personal protective equipment as required.
    - Thermal Hazards:  
None
  - 8.2.3. 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: 8.9 ~ 9.9 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: > 100 °C / 212 ° F
  - Evaporation rate: No data available
  - Vapour pressure: No data available
  - Relative density: No data available
  - 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

- 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 product:
    - e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli  
Negative
    - f) carcinogenicity:  
Components do not come under carcinogens (Ref. 1), except for Carbon black
    - g) reproductive toxicity:  
Does not contain reproductive toxicity and developmental toxic substances (Ref. 2)
  - Toxicological information of the main substances found in the product:
    - Carbon 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. 15
    - 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,  
Triethanolamine - 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.
- 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
- e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium Negative
- 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.

Toxicological information of the product:

No data available

Toxicological information of the main substances found in the product:

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 = 630 mg/l - Duration h: 0.5

- 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  
No data available
- 14.7. Transport in bulk according to Annex II of Marpol 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)
  - Regulation (EU) n. 2015/1221 (ATP 7 CLP)
  - Regulation (EU) n. 2016/918 (ATP 8 CLP)
  - Regulation (EU) n. 2016/1179 (ATP 9 CLP)
  - Regulation (EU) n. 2017/776 (ATP 10 CLP)
  - Regulation (EU) n. 2018/669 (ATP 11 CLP)
  - Regulation (EU) n. 2018/1480 (ATP 13 CLP)
  - Regulation (EU) n. 2019/521 (ATP 12 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 2012/18/EU (Seveso III)

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

Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1

None

#### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

Hazard class and hazard category	Code	Description
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

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

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 (USA)

- 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
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  - TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)
- Ref. 2
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ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
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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.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.