

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Ink Cartridge, Cyan, T7822
- 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: 20/10/2016  
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

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### 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         | The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|              |                                                                                   | EC:           | 231-791-2         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7% ~ 10%     | Glycerol                                                                          | CAS:          | 56-81-5           | The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|              |                                                                                   | EC:           | 200-289-5         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5% ~ 7%      | 2-[2-(2-butoxyethoxy)ethoxy]ethanol;<br>TEGBE; triethylene glycol monobutyl ether | Index number: | 603-183-00-0      |  3.3/1 Eye Dam. 1 H318                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|              |                                                                                   | CAS:          | 143-22-6          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|              |                                                                                   | EC:           | 205-592-6         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|              |                                                                                   | REACH No.:    | 01-21194751 07-38 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1% ~ 3%      | E-C104                                                                            | CAS:          | Confidentail      | 4.1/C3 Aquatic Chronic 3 H412                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|              |                                                                                   | EC:           | 700-815-8         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|              |                                                                                   | REACH No.:    | 01-21199296 31-38 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1% ~ 3%      | Lithium naphthalene-2-carboxylate                                                 | CAS:          | 674347-28-5       |  3.1/4/Oral Acute Tox. 4 H302<br> 3.3/1 Eye Dam. 1 H318                                                                                                                                                                                                                                                                                                                                                                          |
|              |                                                                                   | EC:           | 700-040-5         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0.1% ~ 0.25% | 2,4,7,9-tetramethyldec-5-yne-4,7-diol                                             | CAS:          | 126-86-3          |  3.3/1 Eye Dam. 1 H318<br> 3.4.2/1B Skin Sens. 1B H317<br>4.1/C3 Aquatic Chronic 3 H412                                                                                                                                                                                                                                                                                                                                       |
|              |                                                                                   | EC:           | 204-809-1         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0.1% ~ 0.25% | Triethanol amine                                                                  | CAS:          | 102-71-6          | The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|              |                                                                                   | EC:           | 203-049-8         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| < 0.05%      | 1,2-benzisothiazol-3(2H)-one;<br>1,2-benzisothiazolin-3-one                       | Index number: | 613-088-00-6      |  3.1/4/Oral Acute Tox. 4 H302<br> 3.2/2 Skin Irrit. 2 H315<br> 3.3/1 Eye Dam. 1 H318<br> 3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317<br> 4.1/A1 Aquatic Acute 1 H400 |
|              |                                                                                   | CAS:          | 2634-33-5         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|              |                                                                                   | EC:           | 220-120-9         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|              |                                                                                   |               |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## 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

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### 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.

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

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- 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

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:                                           | 8 ~ 9 at 20 °C                                                            |
| Melting point / freezing point:               | -14.3 °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<br>(closed cup method, ASTM D 3278) |
| Evaporation rate:                             | No data available                                                         |
| Vapour pressure:                              | No data available                                                         |
| Relative density:                             | 1.070 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                                                         |

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

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

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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 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.
  - H412 Harmful to aquatic life with long lasting effects.
  - H302 Harmful if swallowed.

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H317 May cause an allergic skin reaction.

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 |

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:

ECDDN - 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.        |

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|         |                                                                                      |
|---------|--------------------------------------------------------------------------------------|
| 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.<br>(ACGIH Standard). |
| WGK:    | German Water Hazard Class.                                                           |