

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: SinglePack Black 34, T3461
- 1.2. Relevant identified uses of the substance or mixture and uses advised against  
Recommended use:  
Ink for inkjet printing
- 1.3. Details of the supplier of the safety data sheet  
Company:  
EPSON EUROPE B.V.  
Azie building, Atlas ArenA, Hoogoorddreef 5, 1101 BA Amsterdam  
Zuidoost The Netherlands  
Phone number: +31-20-314-5000  
Competent person responsible for the safety data sheet:  
chemicals@epson-europe.com  
Date: 11/05/2017  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790




### SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture  
EC regulation criteria 1272/2008 (CLP)  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Adverse physicochemical, human health and environmental effects:  
No other hazards
- 2.2. Label elements  
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).  
Hazard pictograms:  
None  
Hazard statements:  
None  
Precautionary statements:  
None  
Special Provisions:  
EUH210 Safety data sheet available on request.  
EUH208 Contains 2,4,7,9-tetramethyldec-5-yne-4,7-diol. May produce an allergic reaction.  
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:

**Safety Data Sheet**

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
0.5% ~ 1%	Triethanol amine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.25% ~ 0.5%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412

**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

## Safety Data Sheet

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
  - Carbon black - CAS: 1333-86-4
    - OEL Type: ACGIH - LTE(8h): 3 mg/m<sup>3</sup>
    - OEL Type: OSHA - LTE: 3.5 mg/m<sup>3</sup>
  - Glycerol - CAS: 56-81-5
    - OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup>
    - OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup>
  - DNEL Exposure Limit Values
    - No data available
  - PNEC Exposure Limit Values
    - 2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether - CAS: 143-22-6
      - Target: Fresh Water - Value: 1.5 mg/l
      - 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

## Safety Data Sheet

Target: Fresh Water - Value: 0.04 mg/l  
Target: Marine water - Value: 0.004 mg/l  
Target: Freshwater sediments - Value: 0.32 mg/kg  
Target: Marine water sediments - Value: 0.032 mg/kg

### 8.2. Exposure controls

#### Eye protection:

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

#### Protection for skin:

No special precaution must be adopted for normal use.

#### Protection for hands:

Not needed for normal use.

#### Respiratory protection:

Not needed for normal use.

#### Thermal Hazards:

None

#### Environmental exposure controls:

None

#### Appropriate engineering controls:

None

## SECTION 9: Physical and chemical properties

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

Appearance and colour:	Black Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	8.4 ~ 9.4 at 20 °C
Melting point / freezing point:	-13.3 °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 (closed cup method, ASTM D 3278)
Evaporation rate:	No data available
Vapour pressure:	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

## Safety Data Sheet

- 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

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 mixture:

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., 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,

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.

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

## Safety Data Sheet

- 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.

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

##### a) Aquatic acute toxicity:

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

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

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

##### c) Bacteria toxicity:

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

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

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

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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

### SECTION 14: Transport information

#### 14.1. UN number

**Safety Data Sheet**

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

**SECTION 15: Regulatory information**

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Dir. 98/24/EC (Risks related to chemical agents at work)
  - Dir. 2000/39/EC (Occupational exposure limit values)
  - Regulation (EC) n. 1907/2006 (REACH)
  - Regulation (EC) n. 1272/2008 (CLP)
  - Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
  - Regulation (EU) 2015/830
  - Regulation (EU) n. 286/2011 (ATP 2 CLP)
  - Regulation (EU) n. 618/2012 (ATP 3 CLP)
  - Regulation (EU) n. 487/2013 (ATP 4 CLP)
  - Regulation (EU) n. 944/2013 (ATP 5 CLP)
  - Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII  
Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

  - Restrictions related to the product:  
No restriction.
  - Restrictions related to the substances contained:  
No restriction.

Where applicable, refer to the following regulatory provisions :

  - Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
  - Regulation (EC) nr 648/2004 (detergents).
  - 1999/13/EC (VOC directive)

Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):  
No data available
- 15.2. Chemical safety assessment  
No

**SECTION 16: Other information**

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

Hazard class and hazard category	Code	Description
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Skin Sens. 1B	3.4.2/1B	Skin Sensitisation, Category 1B

**Safety Data Sheet**

Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3
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This safety data sheet has been completely updated in compliance to Regulation 2015/830. This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

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

Ref. 1 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC: International Agency for Research on Cancer)

- Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))
- TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)
- IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)
- National Toxicology Program (NTP) Report on Carcinogens
- Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- MAK und BAT Werte Liste (DFG: German Research Foundation)
- TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

Ref. 2 ·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

- TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This Safety Data Sheet cancels and replaces any preceding release.

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



## Safety Data Sheet

LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: SinglePack Cyan 34, T3462
- 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: 25/05/2017  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790









### SECTION 2: Hazards identification

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

### SECTION 3: Composition/information on ingredients

- 3.1. Substances  
No
- 3.2. Mixtures  
Hazardous components within the meaning of the CLP regulation and related classification:

**Safety Data Sheet**

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).
15% ~ 20%	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1% ~ 3%	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether	Index number: 603-183-00-0 CAS: 143-22-6 EC: 205-592-6 REACH No.: 01-21194751 07-38	 3.3/1 Eye Dam. 1 H318
1% ~ 3%	Triethanol amine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.1% ~ 0.25%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
< 0.05%	1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	Index number: 613-088-00-6 CAS: 2634-33-5 EC: 220-120-9	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.3/1 Eye Dam. 1 H318  3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317  4.1/A1 Aquatic Acute 1 H400

**SECTION 4: First aid measures**

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

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

In case of Ingestion:

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

In case of Inhalation:

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

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

None

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

Treatment:

None

**SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

## Safety Data Sheet

Extinguishing media which must not be used for safety reasons:  
None in particular.

- 5.2. Special hazards arising from the substance or mixture  
Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.
- 5.3. Advice for firefighters  
Use suitable breathing apparatus .  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

### SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures  
Wear personal protection equipment.  
Remove persons to safety.  
See protective measures under point 7 and 8.
- 6.2. Environmental precautions  
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up  
Wash with plenty of water.
- 6.4. Reference to other sections  
See also section 8 and 13

### SECTION 7: Handling and storage

- 7.1. Precautions for safe handling  
Avoid contact with skin and eyes, inhalation of vapours and mists.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities  
Keep away from food, drink and feed.  
Incompatible materials:  
None in particular.  
Instructions as regards storage premises:  
Adequately ventilated premises.
- 7.3. Specific end use(s)  
None in particular

### SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters  
Glycerol - CAS: 56-81-5  
- OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup>  
- OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup>  
DNEL Exposure Limit Values  
No data available  
PNEC Exposure Limit Values  
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether -  
CAS: 143-22-6  
Target: Fresh Water - Value: 1.5 mg/l  
Target: Freshwater sediments - Value: 5.77 mg/kg  
Target: Marine water - Value: 0.15 mg/l

## Safety Data Sheet

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:

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

#### 8.2.3. Environmental exposure controls:

None

## SECTION 9: Physical and chemical properties

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

Appearance and colour:	Cyan Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	9.2 ~ 10.2 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 at 20 °C
Solubility in water:	Complete
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Explosive properties:	No data available
Oxidizing properties:	No data available

### 9.2. Other information

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

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

## Safety Data Sheet

- 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

f) carcinogenicity:

Does not contain carcinogens (Ref. 1)

g) reproductive toxicity:

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

Toxicological information of the main substances found in the mixture:

Glycerol - CAS: 56-81-5

a) acute toxicity:

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

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

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.

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

## Safety Data Sheet

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

##### a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 36 mg/l - Duration h: 96  
Endpoint: EC50 - Species: Daphnia = 88 mg/l - Duration h: 48  
Endpoint: EC50 - Species: Algae = 15 mg/l - Duration h: 72

##### c) Bacteria toxicity:

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

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

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

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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

### SECTION 14: Transport information

#### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

#### 14.2. UN proper shipping name

No data available

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

No data available

#### 14.4. Packing group

No data available

#### 14.5. Environmental hazards

## Safety Data Sheet

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

### SECTION 15: Regulatory information

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

- 15.2. Chemical safety assessment  
No

### SECTION 16: Other information

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

Hazard class and 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



**Safety Data Sheet**

Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3
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This safety data sheet has been completely updated in compliance to Regulation 2015/830. This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

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

Ref. 1 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC: International Agency for Research on Cancer)

- Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))
- TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)
- IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)
- National Toxicology Program (NTP) Report on Carcinogens
- Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- MAK und BAT Werte Liste (DFG: German Research Foundation)
- TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

Ref. 2 ·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

- TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This Safety Data Sheet cancels and replaces any preceding release.

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

## Safety Data Sheet

LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Singlepack Magenta 34, T3463
- 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: 25/05/2017  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790









### SECTION 2: Hazards identification

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

### SECTION 3: Composition/information on ingredients

- 3.1. Substances  
No
- 3.2. Mixtures  
Hazardous components within the meaning of the CLP regulation and related classification:

**Safety Data Sheet**

Qty	Name	Ident. Number	Classification
65% ~ 80%	Water	CAS: 7732-18-5 EC: 231-791-2	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
10% ~ 12.5%	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
1% ~ 3%	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether	Index number: 603-183-00-0 CAS: 143-22-6 EC: 205-592-6 REACH No.: 01-21194751 07-38	 3.3/1 Eye Dam. 1 H318
1% ~ 3%	Triethanol amine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
0.25% ~ 0.5%	2,4,7,9-tetramethyldec-5-yne-4,7-diol	CAS: 126-86-3 EC: 204-809-1	 3.3/1 Eye Dam. 1 H318  3.4.2/1B Skin Sens. 1B H317 4.1/C3 Aquatic Chronic 3 H412
< 0.05%	1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	Index number: 613-088-00-6 CAS: 2634-33-5 EC: 220-120-9	 3.1/4/Oral Acute Tox. 4 H302  3.2/2 Skin Irrit. 2 H315  3.3/1 Eye Dam. 1 H318  3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317  4.1/A1 Aquatic Acute 1 H400

**SECTION 4: First aid measures**

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

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

In case of Ingestion:

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

In case of Inhalation:

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

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

None

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

Treatment:

None

**SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing media:

Water.

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

## Safety Data Sheet

Extinguishing media which must not be used for safety reasons:  
None in particular.

- 5.2. Special hazards arising from the substance or mixture  
Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.
- 5.3. Advice for firefighters  
Use suitable breathing apparatus .  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

### SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures  
Wear personal protection equipment.  
Remove persons to safety.  
See protective measures under point 7 and 8.
- 6.2. Environmental precautions  
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up  
Wash with plenty of water.
- 6.4. Reference to other sections  
See also section 8 and 13

### SECTION 7: Handling and storage

- 7.1. Precautions for safe handling  
Avoid contact with skin and eyes, inhalation of vapours and mists.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities  
Keep away from food, drink and feed.  
Incompatible materials:  
None in particular.  
Instructions as regards storage premises:  
Adequately ventilated premises.
- 7.3. Specific end use(s)  
None in particular

### SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters  
Glycerol - CAS: 56-81-5  
- OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup>  
- OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup>  
DNEL Exposure Limit Values  
No data available  
PNEC Exposure Limit Values  
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether -  
CAS: 143-22-6  
Target: Fresh Water - Value: 1.5 mg/l  
Target: Freshwater sediments - Value: 5.77 mg/kg  
Target: Marine water - Value: 0.15 mg/l

## Safety Data Sheet

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:

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

#### 8.2.3. Environmental exposure 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:	8.8 ~ 9.8	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	at 20 °C
Solubility in water:	Complete	
Solubility in oil:	No data available	
Partition coefficient (n-octanol/water):	No data available	
Auto-ignition temperature:	No data available	
Decomposition temperature:	No data available	
Viscosity:	< 5 mPa·s	at 20 °C
Explosive properties:	No data available	
Oxidizing properties:	No data available	

### 9.2. Other information

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

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

## Safety Data Sheet

- 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

f) carcinogenicity:

Does not contain carcinogens (Ref. 1)

g) reproductive toxicity:

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

Toxicological information of the main substances found in the mixture:

Glycerol - CAS: 56-81-5

a) acute toxicity:

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

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

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.

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

## Safety Data Sheet

- 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.

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

##### a) Aquatic acute toxicity:

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

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

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

##### c) Bacteria toxicity:

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

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

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

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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

### SECTION 14: Transport information

#### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

#### 14.2. UN proper shipping name

No data available

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

No data available

#### 14.4. Packing group

No data available

#### 14.5. Environmental hazards



## Safety Data Sheet

- 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)
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  - Regulation (EU) 2015/830
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  - Regulation (EU) n. 618/2012 (ATP 3 CLP)
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  - Regulation (EU) n. 605/2014 (ATP 6 CLP)
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Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
- Restrictions related to the product:  
No restriction.
- Restrictions related to the substances contained:  
No restriction.
- Where applicable, refer to the following regulatory provisions :
- Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
  - Regulation (EC) nr 648/2004 (detergents).
  - 1999/13/EC (VOC directive)
- Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):  
No data available

- 15.2. Chemical safety assessment  
No

### SECTION 16: Other information

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

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

**Safety Data Sheet**

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
- CCNL - Appendix 1

Ref. 1 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC: International Agency for Research on Cancer)

- Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))
- TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)
- IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)
- National Toxicology Program (NTP) Report on Carcinogens
- Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
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## Safety Data Sheet

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WGK:	German Water Hazard Class.

## Safety Data Sheet

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Singlepack Yellow 34, T3464
- 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: 25/05/2017  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790









### SECTION 2: Hazards identification

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

### SECTION 3: Composition/information on ingredients

- 3.1. Substances  
No
- 3.2. Mixtures  
Hazardous components within the meaning of the CLP regulation and related classification:

**Safety Data Sheet**

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

**SECTION 4: First aid measures**

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

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

In case of Ingestion:

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

In case of Inhalation:

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

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

None

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

Treatment:

None

**SECTION 5: Firefighting measures**

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

## Safety Data Sheet

Extinguishing media which must not be used for safety reasons:  
None in particular.

- 5.2. Special hazards arising from the substance or mixture  
Do not inhale explosion and combustion gases.  
Burning produces heavy smoke.
- 5.3. Advice for firefighters  
Use suitable breathing apparatus .  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.

### SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures  
Wear personal protection equipment.  
Remove persons to safety.  
See protective measures under point 7 and 8.
- 6.2. Environmental precautions  
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up  
Wash with plenty of water.
- 6.4. Reference to other sections  
See also section 8 and 13

### SECTION 7: Handling and storage

- 7.1. Precautions for safe handling  
Avoid contact with skin and eyes, inhalation of vapours and mists.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities  
Keep away from food, drink and feed.  
Incompatible materials:  
None in particular.  
Instructions as regards storage premises:  
Adequately ventilated premises.
- 7.3. Specific end use(s)  
None in particular

### SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters  
Glycerol - CAS: 56-81-5  
- OEL Type: OSHA - LTE: 5 mg/m<sup>3</sup>  
- OEL Type: OSHA - LTE: 15 mg/m<sup>3</sup>  
DNEL Exposure Limit Values  
No data available  
PNEC Exposure Limit Values  
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether -  
CAS: 143-22-6  
Target: Fresh Water - Value: 1.5 mg/l  
Target: Freshwater sediments - Value: 5.77 mg/kg  
Target: Marine water - Value: 0.15 mg/l

## Safety Data Sheet

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:

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

#### 8.2.3. Environmental exposure 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:	8.7 ~ 9.7 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 at 20 °C
Solubility in water:	Complete
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Explosive properties:	No data available
Oxidizing properties:	No data available

### 9.2. Other information

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

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

## Safety Data Sheet

- 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

f) carcinogenicity:

Does not contain carcinogens (Ref. 1)

g) reproductive toxicity:

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

Toxicological information of the main substances found in the mixture:

Glycerol - CAS: 56-81-5

a) acute toxicity:

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

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

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.

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



## Safety Data Sheet

- 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.

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

##### a) Aquatic acute toxicity:

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

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

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

##### c) Bacteria toxicity:

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

#### 12.2. Persistence and degradability

No data available

#### 12.3. Bioaccumulative potential

No data available

#### 12.4. Mobility in soil

No data available

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

vPvB Substances: None - PBT Substances: None

#### 12.6. Other adverse effects

None

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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

### SECTION 14: Transport information

#### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

#### 14.2. UN proper shipping name

No data available

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

No data available

#### 14.4. Packing group

No data available

#### 14.5. Environmental hazards

## Safety Data Sheet

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

### SECTION 15: Regulatory information

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

- 15.2. Chemical safety assessment  
No

### SECTION 16: Other information

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

Hazard class and 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

## Safety Data Sheet

Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3
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This safety data sheet has been completely updated in compliance to Regulation 2015/830.  
This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

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