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**1. IDENTIFICATION**

Product identifier  
Mixture identification:  
Trade name: Ink, T23220 / T10C2

Recommended use of the chemical and restrictions on use  
Recommended use:  
Ink for inkjet printing

Details of the supplier of the safety data sheet  
Company:  
Epson America, Inc.  
3131 Katella Ave.  
Los Alamitos, CA 90720  
United States

Telephone : 562.276.1369  
Emergency phone number  
Telephone : 562.276.1369

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**2. HAZARD(S) IDENTIFICATION**

Classification of the chemical  
The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

Label elements  
The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazard pictograms:  
None

Hazard statements:  
None

Precautionary statements:  
None

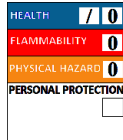
Special Provisions:  
None

Hazards not otherwise classified identified during the classification process:  
None

Additional classification information  
NFPA rating:



HMIS rating:




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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances  
No

Mixtures  
Hazardous components within the meaning of 29 CFR 1910.1200 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 OSHA Hazard Communication Standard (29 CFR 1910.1200).
10% ~ 12.5 %	Glycerol	CAS: 56-81-5 EC: 200-289-5	The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).
7% ~ 10%	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether	Index number: 603-183-00-0 CAS: 143-22-6 EC: 205-592-6 REACH No.: 01-21194751 07-38	 A.3/1 Eye Dam. 1 H318 Specific Concentration Limits: 20% <= C < 30%: Eye Irrit. 2A H319 C >= 30%: Eye Dam. 1 H318
1% ~ 3%	E-C104	EC: 700-815-8 REACH No.: 01-21199296 31-38	US-HAE/C3 Aquatic Chronic 3 H412
0.1% ~ 0.25 %	Triethanolamine	CAS: 102-71-6 EC: 203-049-8	The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

#### 4. FIRST-AID MEASURES

Description of necessary 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.

Most important symptoms/effects, acute and delayed

None

Indication of immediate medical attention and special treatment needed

Treatment:

None

#### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Water.

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

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products:

None

Explosive properties: No data available

Oxidizing properties: No data available

Special protective equipment and precautions for fire-fighters

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.

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## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

Methods and materials for containment and cleaning up

Wash with plenty of water.

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## 7. HANDLING AND STORAGE

Precautions for safe handling

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

Do not use on extensive surface areas in premises where there are occupants.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

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.

Storage temperature:

Store at ambient temperature.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Glycerol - CAS: 56-81-5

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

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

Triethanolamine - CAS: 102-71-6

- OEL Type: ACGIH - TWA(8h): 5 mg/m<sup>3</sup>

DNEL Exposure Limit Values

No data available

PNEC Exposure Limit Values

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

Target: Fresh Water - Value: 1.5 mg/l

Target: Freshwater sediments - Value: 5.77 mg/kg

Target: Marine water - Value: 0.15 mg/l

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

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

Appropriate engineering controls:

None

Individual protection measures

Eye protection:

Use personal protective equipment as required.

Protection for skin:

Use personal protective equipment as required.

Protection for hands:

Use personal protective equipment as required.

Respiratory protection:

Use personal protective equipment as required.

Thermal Hazards:  
None

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour:	Cyan Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	8.1 ~ 9.1 at 20 °C
Melting point / freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	> 212 ° F / 100 °C
Evaporation rate:	No data available
Solid/gas flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour pressure:	No data available
Vapour density:	No data available
Relative density:	No data available
Solubility in water:	Complete
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Miscibility:	No data available
Fat Solubility:	No data available
Conductivity:	No data available

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## 10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	None
Conditions to avoid	Stable under normal conditions.
Incompatible materials	None in particular.
Hazardous decomposition products	None.

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## 11. TOXICOLOGICAL INFORMATION

Toxicological information of the product:	
e) germ cell mutagenicity:	Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli Negative
f) carcinogenicity:	Does not contain carcinogens (Ref. 1)
g) reproductive toxicity:	Does not contain reproductive toxicity and developmental toxic substances (Ref. 2)
Toxicological information of the main substances found in the product:	
Glycerol - CAS: 56-81-5	
a) acute toxicity:	Test: LD50 - Route: Oral - Species: Guinea pig = 7750 mg/kg - Source: Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941

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

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

a) acute toxicity:

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

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

E-C104

a) acute toxicity:

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

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

Test: LC50 - Route: Inhalation Dust - Species: Rat > 5 mg/l

b) skin corrosion/irritation:

Test: Skin Irritant - Species: Rabbit Non-irritant

c) serious eye damage/irritation:

Test: Eye Irritant - Species: Rabbit Minimal irritant

d) respiratory or skin sensitisation:

Test: Skin Sensitisation - Route: LLNA - Species: Mouse Non-sensitiser

e) germ cell mutagenicity:

Test: Genotoxicity Negative

Test: Mutagenesis - Route: Dermal - Species: Salmonella Typhimurium and Escherichia coli Negative

g) reproductive toxicity:

Test: Reproductive Toxicity - Route: Oral - Species: Rat No

Triethanolamine - CAS: 102-71-6

a) acute toxicity:

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

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

Substance(s) listed on the NTP report on Carcinogens:

None.

Substance(s) listed on the IARC Monographs:

Triethanolamine - Group 3.

Substance(s) listed as OSHA Carcinogen(s):

None.

Substance(s) listed as NIOSH Carcinogen(s):

None.

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## 12. ECOLOGICAL INFORMATION

Ecotoxicity

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

E-C104

a) Aquatic acute toxicity:

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

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

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

f) Effects in sewage plants:

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

Persistence and degradability

No data available  
Bioaccumulative potential  
No data available  
Mobility in soil  
No data available  
Other adverse effects  
None

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### 13. DISPOSAL CONSIDERATIONS

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

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### 14. TRANSPORT INFORMATION

UN number  
Not classified as dangerous in the meaning of transport regulations.  
UN proper shipping name  
No data available  
Transport hazard class(es)  
No data available  
Packing group  
No data available  
Environmental hazards  
No data available  
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)  
No data available  
Special precautions  
No data available

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### 15. REGULATORY INFORMATION

USA - Federal regulations  
TSCA - Toxic Substances Control Act  
TSCA inventory: all the components are listed on the TSCA inventory.  
TSCA listed substances:  
None.  
SARA - Superfund Amendments and Reauthorization Act  
Section 302 – Extremely Hazardous Substances: no substances listed.  
Section 304 – Hazardous substances: no substances listed.  
Section 313 – Toxic chemical list: 2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether.  
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act  
Substance(s) listed under CERCLA: 2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether.  
CAA - Clean Air Act  
CAA listed substances:  
Glycerol is listed in CAA Section 111  
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether is listed in CAA Section 112, Section 112(b) - HON.  
CWA - Clean Water Act  
CWA listed substances:  
None.  
  
USA - State specific regulations  
California Proposition 65  
Substance(s) listed under California Proposition 65:

None.  
Massachusetts Right to know  
Substance(s) listed under Massachusetts Right to know:  
No substances listed.  
New Jersey Right to know  
Substance(s) listed under New Jersey Right to know:  
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether.  
Pennsylvania Right to know  
Substance(s) listed under Pennsylvania Right to know:  
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether.

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## 16. OTHER INFORMATION

Full text of phrases referred to in Section 3:

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

Safety Data Sheet dated August 17, 2020, Revision: 3.1

Sections modified from the previous revision:

1. IDENTIFICATION

3. COMPOSITION/INFORMATION ON INGREDIENTS

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

11. TOXICOLOGICAL INFORMATION

12. ECOLOGICAL INFORMATION

Main bibliographic sources:

- Ref. 1 ·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)  
·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)

Disclaimer:

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. The information relates only to the specific material and may not be valid for such material used in combination with any other material or in any process.

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.

## Safety Data Sheet

EINECS:	European Inventory of Existing Commercial Chemical Substances.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
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.
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
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).