1. IDENTIFICATION
Product identifier
Mixture identification:
Trade name: Ink Bottle, T5321
Other means of identification:
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.
3840 Kilroy Airport Way
Long Beach, CA  90806
United States
Telephone : 562.276.1369
Emergency phone number
Telephone : 562.276.1369

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:

3. COMPOSITION/INFORMATION ON INGREDIENTS
Substances
No
Mixtures
Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:
<table>
<thead>
<tr>
<th>Qty</th>
<th>Name</th>
<th>Ident. Number</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>3% ~ 5%</td>
<td>2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether</td>
<td>Index number: 603-183-00-0  CAS: 143-22-6  EC: 205-592-6  REACH No.: 01-21194751-07-38</td>
<td>A.3/1 Eye Dam. 1 H318</td>
</tr>
<tr>
<td>0.5% ~ 1%</td>
<td>Triethanol amine</td>
<td>CAS: 102-71-6  EC: 203-049-8</td>
<td>The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).</td>
</tr>
</tbody>
</table>

### 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 (CO2).

**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
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures
- Wear personal protection equipment.
- Remove all sources of ignition.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
- Provide adequate ventilation.
- Remove persons to safety.
- Use appropriate respiratory protection.
- See protective measures under point 7 and 8.

Methods and materials for containment and cleaning up
- Wash with plenty of water.

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
- Carbon black - CAS: 1333-86-4
  - OEL Type: ACGIH - LTE(8h): 3 mg/m³
  - OEL Type: OSHA - LTE: 3.5 mg/m³
- Glycerol - CAS: 56-81-5
  - OEL Type: OSHA - LTE: 5 mg/m³
  - OEL Type: OSHA - LTE: 15 mg/m³

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:
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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour: Black Liquid
Odour: Slightly
Odour threshold: No data available
pH: 8.9 – 9.9 at 20 °C
Melting point / freezing point: No data available
Initial boiling point and boiling range: No data available
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

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.

11. TOXICOLOGICAL INFORMATION

Toxicological information of the product:

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

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

a) acute toxicity:
   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:

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.

Substance(s) listed on the NTP report on Carcinogens:
 None.

Substance(s) listed on the IARC Monographs:
 Carbon black - Group 2B
 Triethanol amine - Group 3.
 Substance(s) listed as OSHA Carcinogen(s):
 None.
 Substance(s) listed as NIOSH Carcinogen(s):
 None.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Adopt good working practices, so that the product is not released into the environment.
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available
Other adverse effects
None

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

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

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:
Carbon black.
New Jersey Right to know
Substance(s) listed under New Jersey Right to know:
Carbon black
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether.

Pennsylvania Right to know
Substance(s) listed under Pennsylvania Right to know:
Carbon black
2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether.

16. OTHER INFORMATION
Full text of phrases referred to in Section 3:
H318 Causes serious eye damage.

Safety Data Sheet dated July 4, 2017, Revision: 2.0
Sections modified from the previous revision:

9. PHYSICAL AND CHEMICAL PROPERTIES

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.
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).
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.