1. IDENTIFICATION

Product identifier
Mixture identification: INK CARTRIDGE/BK   T3121
Trade name: T3121

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:
Safety Data Sheet

<table>
<thead>
<tr>
<th>Qty</th>
<th>Name</th>
<th>Ident. Number</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EC: 231-791-2</td>
<td></td>
</tr>
<tr>
<td>7% ~ 10%</td>
<td>Glycerol</td>
<td>CAS: 56-81-5</td>
<td>The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EC: 200-289-5</td>
<td></td>
</tr>
<tr>
<td>7% ~ 10%</td>
<td>2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether</td>
<td>Index number: 603-183-00-0</td>
<td>A.3/1 Eye Dam. 1 H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAS: 143-22-6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EC: 205-592-6</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>REACH No.: 01-21194751 07-38</td>
<td></td>
</tr>
<tr>
<td>1% ~ 3%</td>
<td>E-BK105</td>
<td>EC: 700-794-5</td>
<td>US-HAE/C3 Aquatic Chronic 3 H412</td>
</tr>
<tr>
<td></td>
<td></td>
<td>REACH No.: 01-21199285 35-33</td>
<td></td>
</tr>
<tr>
<td>0.1% ~ 0.25%</td>
<td>Triethanol amine</td>
<td>CAS: 102-71-6</td>
<td>The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EC: 203-049-8</td>
<td></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
Special protective equipment and precautions for fire-fighters
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.

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
   Glycerol - CAS: 56-81-5
   - OEL Type: OSHA - LTE: 5 mg/m3 - Notes: PEL, as mist, respirable fraction
   - OEL Type: OSHA - LTE: 15 mg/m3 - Notes: PEL, as mist, total dust
   DNEL Exposure Limit Values
   No data available
   PNEC Exposure Limit Values
   2-[2-(2-butoxyethoxy)ethoxy]ethanol;  TEGBE;  triethylene glycol monobutyl ether - CAS: 143-22-6
   Target: Fresh Water - Value: 1.5 mg/l
   Target: Freshwater sediments - Value: 5.77 mg/kg
   Target: Marine water - Value: 0.15 mg/l
   Target: Marine water sediments - Value: 0.13 mg/kg
   Target: Microorganisms in sewage treatments - Value: 200 mg/l
   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:
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance and colour</td>
<td>Black Liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Slightly</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>8 ~ 9 at 20 °C</td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Does not flash until 212 °F / 100 °C (closed cup method, ASTM D 3278)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Solid/gas flammability</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.061 at 20 °C</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Complete</td>
</tr>
<tr>
<td>Solubility in oil</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>&lt; 5 mPa·s at 20 °C</td>
</tr>
<tr>
<td>Miscibility</td>
<td>No data available</td>
</tr>
<tr>
<td>Fat Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Conductivity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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

Toxicological information of the main substances found in the mixture:
- Glycerol - CAS: 56-81-5
  - a) acute toxicity:
    - Test: LD50 - Route: Oral - Species: Guinea pig = 7750 mg/kg - Source: Journal of Industrial Hygiene and Toxicology. Vol. 23, Pg. 259, 1941
**Safety Data Sheet**


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:

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

Substance(s) listed on the IARC Monographs:
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:
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.

16. OTHER INFORMATION
Full text of phrases referred to in Section 3:
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Safety Data Sheet dated March 2, 2017, Revision: 1.0
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.
Safety Data Sheet

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.
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).