SECTION 1: Identification of the substance/mixture and of the company/undertaking
1.1. Product identifier
   Mixture identification:
   Trade name: Ink cartridge, T288120
   Trade code: C13T305120 (T3051)
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:
   SEIKO EPSON CORPORATION
   80 Harashinden, Hirooka, Shiojiri-shi, Nagano-ken, 399-0785 JAPAN
   Phone number: +81-263-52-2552
   FAX number: +81-263-53-3702
   Competent person responsible for the safety data sheet:
   MSDS_HRO@exc.epson.co.jp
   Date: 10 September, 2015
   Revision: 1.0
1.4. Emergency telephone number
   Phone number: +81-263-52-2552 (Mon~Fri, 9AM~5PM JST)

SECTION 2: Hazards identification
2.1. Classification of the substance or mixture
   The product is not classified as dangerous according to GHS - Fourth revised edition.
   Adverse physicochemical, human health and environmental effects:
   No other hazards
2.2. Label elements
   The product is not classified as dangerous according to GHS - Fourth revised edition.
   Symbols:
   None
   Hazard statements:
   None
   Precautionary statements:
   None
   Special Provisions:
   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
   N.A.
3.2. Mixtures
   Hazardous components within the meaning of GHS regulation and related classifications:

<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></td>
<td></td>
</tr>
</tbody>
</table>
### 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 spray, dry chemical, carbon dioxide or alcohol-resistant foam.
  - Water.
  - Carbon dioxide (CO2).
- 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 all sources of ignition.
- 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
- No occupational exposure limit available
- DNEL Exposure Limit Values
  - N.A.
- 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

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: N.A.
- pH: 8.4 ~ 9.4 at 20°C
- Melting point / freezing point: N.A.
- Initial boiling point and boiling range: N.A.
- Solid/gas flammability: N.A.
- Upper/lower flammability or explosive limits: N.A.
- Vapour density: N.A.
- Flash point: N.A.
- Evaporation rate: N.A.
- Vapour pressure: N.A.
- Relative density: N.A.
- Solubility in water: Complete
- Solubility in oil: N.A.
- Partition coefficient (n-octanol/water): N.A.
- Auto-ignition temperature: N.A.
- Decomposition temperature: N.A.
- Viscosity: < 5 mPa s
- Explosive properties: N.A.
- Oxidizing properties: N.A.

9.2. Other information
- Miscibility: N.A.
- Fat Solubility: N.A.
- Conductivity: N.A.
- Substance Groups relevant properties: N.A.

SECTION 10: Stability and reactivity
10.1. Reactivity
Stable under normal conditions
10.2. Chemical stability
Stable under normal conditions
10.3. Possibility of hazardous reactions
None
10.4. Conditions to avoid
Stable under normal conditions.
10.5. Incompatible materials
None in particular.
10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Toxicological information of the mixture:
Toxicological information of the main substances found in the mixture:

**Glycerols**

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
   

**Carbon black - CAS: 1333-86-4**

a) acute toxicity:
   
   Test: LD50 - Route: Skin - 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

**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,

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 453/2010/EC listed below must be considered as N.A.:

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.

N.A.

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

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
   N.A.
14.3. Transport hazard class(es)
   N.A.
14.4. Packing group
   N.A.
14.5. Environmental hazards
   N.A.
14.6. Special precautions for user
   N.A.
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
   N.A.

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) n. 453/2010 (Annex II)
   Regulation (EU) n. 286/2011 (ATP 2 CLP)
   Regulation (EU) n. 618/2012 (ATP 3 CLP)
   Regulation (EU) n. 487/2013 (ATP 4 CLP)

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

Where applicable, refer to the following regulatory provisions:
   Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
   1999/13/EC (VOC directive)

Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):
   N.A.

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:
Glycerols 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.

15.2. Chemical safety assessment
No

SECTION 16: Other information
Full text of phrases referred to in Section 3:
H318 Causes serious eye damage.

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
Insert further consulted bibliography

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

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.
EINECS: European Inventory of Existing Commercial Chemical Substances.
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
INCI: International Nomenclature of Cosmetic Ingredients.
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LTE: Long-term exposure.
PNEC: Predicted No Effect Concentration.
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
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.