1. Identification
   GHS Product Identifier
   Mixture identification: Ink Pack, T46C2

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

   Supplier's details
   Company: SEIKO EPSON CORPORATION
   80 Harashinden, Hirooka, Shiojiri-shi, Nagano-ken, 399-0785 JAPAN
   Phone number: +81-263-52-2552

   Competent person responsible for the safety data sheet:
   MSDS_HRO@exc.epson.co.jp

   Emergency phone number
   Phone number: +81-263-52-2552

2. Hazard identification
   Classification of the substance or mixture
   The product is not classified as dangerous according to GHS - Fifth revised edition.

   GHS label elements, including precautionary statements
   The product is not classified as dangerous according to GHS - Fifth revised edition.

   Hazard pictograms:
   None

   Hazard statements:
   None

   Precautionary statements:
   None

   Special Provisions:
   None

   Other hazards which do not result in a classification
   No other hazards

3. Composition/information on ingredients
   Substances
   No

   Mixtures
   Hazardous components within the meaning of GHS and related classification:

<table>
<thead>
<tr>
<th>Qty</th>
<th>Name</th>
<th>CAS:</th>
<th>EC:</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>50% ~ 65%</td>
<td>Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>The product is not classified as dangerous according to GHS - Fifth revised edition.</td>
</tr>
<tr>
<td>20% ~ 25%</td>
<td>Glycerol</td>
<td>56-81-5</td>
<td>200-289-5</td>
<td>The product is not classified as dangerous according to GHS - Fifth revised edition.</td>
</tr>
<tr>
<td>0.25% ~ 0.5%</td>
<td>Triethanol amine</td>
<td>102-71-6</td>
<td>203-049-8</td>
<td>The product is not classified as dangerous according to GHS - Fifth revised edition.</td>
</tr>
</tbody>
</table>
4. First-aid measures
   Description of necessary 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.
   Most important symptoms/effects, acute and delayed
     None
   Indication of immediate medical attention and special treatment needed, if necessary
     Treatment:
     None

5. Fire-fighting measures
   Suitable extinguishing media
     Water.
     Carbon dioxide (CO2).
   Unsuitable extinguishing media:
     None in particular.
   Special 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 actions 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.

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.
   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
   Methods and material 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 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. 

8. Exposure controls/personal protection 
Control parameters 
Glycerol - CAS: 56-81-5
  - OEL Type: OSHA - TWA: 5 mg/m³ - Notes: Respirable dust
  - OEL Type: OSHA - TWA: 15 mg/m³ - Notes: Total dust
Triethanol amine - CAS: 102-71-6
  - OEL Type: ACGIH - TWA(8h): 5 mg/m³

DNEL Exposure Limit Values 
No data available 
PNEC Exposure Limit Values 
No data available 

Appropriate engineering controls: None 

Individual protection measures, such as personal protective equipment (PPE) 
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: Blue Liquid 
Odour: Slightly 
Odour threshold: No data available 
PH: 7.5 ~ 8.7 at 20 °C 
Melting point / freezing point: No data available 
Initial boiling point and boiling range: No data available 
Flash point: > 95 °C / 203 °F 
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
10. Stability Toxicological information

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
Acrolein (CAS #107-02-8);
When glycerol is heated over 300°C, it will decompose into acrolein.

11. Toxicological information

Information on toxicological effects

Toxicological information of the product:

e) germ cell mutagenicity:
   Test: Mutagenesis - Species: Salmonella Typhimurium Positive

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

Triethanol amine - CAS: 102-71-6
a) acute toxicity:

If not differently specified, the information 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.

12. Ecological information
Toxicity
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
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, if applicable
No data available
Environmental hazards
No data available
Special precautions for user
No data available
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No data available

15. Regulatory information
Safety, health and environmental regulations specific for the product in question
This Safety Data Sheet has been prepared according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Fifth revised edition.

16. Other information
Safety Data Sheet dated December 4, 2018, Revision: 2.0
Paragraphs modified from the previous revision:
3. Composition/information on ingredients
8. Exposure controls/personal protection
9. Physical and chemical properties
11. Toxicological information
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  
  - Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))
  - TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)
  - National Toxicology Program (NTP) Report on Carcinogens (USA)
  - 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  
  - 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).
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.