1. Identification

GHS Product Identifier
Trade name: Ink Pack, T46C4

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: Yellow 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:
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;
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.