

## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1. Product identifier  
Mixture identification:  
Trade name: Ink cartridge, T8921  
Trade code: C13T892100
- 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: 7 August, 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  
Warning, Flam. Liq. 4, Combustible liquid.
- Adverse physicochemical, human health and environmental effects:  
No other hazards
- 2.2. Label elements  
Symbols:  
None
- Warning  
Hazard statements:  
H227 Combustible liquid.  
Precautionary statements:  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P370+P378 In case of fire: Use water to extinguish.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container in accordance with applicable regulations.
- 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:

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Qty	Name	Ident. Number	Classification
65% ~ 80%	Diethylene Glycol Methyl Ethyl Ether	CAS: 1002-67-1 EC: 213-690-5	2.6/4 Flam. Liq. 4 H227
10% ~ 12.5%	Proprietary organic materials	CAS: Trade secret	The product is not classified as dangerous according to GHS - Fourth revised edition.
10% ~ 12.5%	Gamma-Butyrolactone	CAS: 96-48-0 EC: 202-509-5	The product is not classified as dangerous according to GHS - Fourth revised edition.
5% ~ 7%	Dipropylene glycol monomethylether	CAS: 34590-94-8	2.6/4 Flam. Liq. 4 H227
1% ~ 3%	Carbon black	CAS: 1333-86-4 EC: 215-609-9	The product is not classified as dangerous according to GHS - Fourth revised edition.

### 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.

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.

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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.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### 7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

### 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

N.A.

### 8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

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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:	N.A.
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:	65.5 °C
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	0.98
Solubility in water:	Soluble
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:  
Ink  
e) germ cell mutagenicity:

Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli  
Negative

Toxicological information of the main substances found in the mixture:

Diethylene Glycol Methyl Ethyl Ether - CAS: 1002-67-1

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg

Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg

b) skin corrosion/irritation:

Test: Skin Irritant - Route: Skin - Species: Rabbit Negative

c) serious eye damage/irritation:

Test: Eye Irritant - Species: Rabbit Negative

e) germ cell mutagenicity:

Test: Mutagenesis - Species: Salmonella Typhimurium Negative

g) reproductive toxicity:

Test: Reproductive Toxicity - Route: Oral - Species: Rat Negative

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

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.

Diethylene Glycol Methyl Ethyl Ether - CAS: 1002-67-1

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Algae > 89.5 mg/l - Duration h: 96

Endpoint: LC50 - Species: Daphnia > 93.6 mg/l - Duration h: 48

Endpoint: LC50 - Species: Fish > 90.8 mg/l - Duration h: 96

### 12.2. Persistence and degradability

N.A.

### 12.3. Bioaccumulative potential

N.A.

### 12.4. Mobility in soil

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- 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)  
Regulation (EU) n. 944/2013 (ATP 5 CLP)  
Regulation (EU) n. 605/2014 (ATP 6 CLP)  
Restrictions related to the product or the substances contained according to Annex XVII  
Regulation (EC) 1907/2006 (REACH) and subsequent modifications:  
Restrictions related to the product:  
No restriction.  
Restrictions related to the substances contained:  
No restriction.  
Where applicable, refer to the following regulatory provisions :  
Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.  
Regulation (EC) nr 648/2004 (detergents).  
1999/13/EC (VOC directive)  
  
Provisions related to directives 82/501/EC(Seveso), 96/82/EC(Seveso II):  
N.A.

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### USA - Federal regulations

#### TSCA - Toxic Substances Control Act

TSCA inventory: all the components are listed on the TSCA inventory.

TSCA listed substances:

Dipropylene glycol monomethylether is listed in TSCA Section 8a - PAIR.

#### SARA - Superfund Amendments and Reauthorization Act

Section 302 H Extremely Hazardous Substances: no substances listed.

Section 304 H Hazardous substances: no substances listed.

Section 313 H Toxic chemical list: Diethylene Glycol Methyl Ethyl Ether.

#### CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA: Diethylene Glycol Methyl Ethyl Ether.

#### CAA - Clean Air Act

CAA listed substances:

Diethylene Glycol Methyl Ethyl Ether is listed in CAA Section 112(b) - HAP, 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:

Dipropylene glycol monomethylether

Carbon black.

#### New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether

Carbon black.

#### Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether

Carbon black.

### 15.2. Chemical safety assessment

No

## SECTION 16: Other information

Full text of phrases referred to in Section 3:

H227 Combustible liquid.

This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU.

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

## Safety Data Sheet

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).
IMDG:	International Maritime Code for Dangerous Goods.
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.