

## 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, T8901
- 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:

**Safety Data Sheet**

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.

## Safety Data Sheet

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

## Safety Data Sheet

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

## Safety Data Sheet

- 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.

## Safety Data Sheet

### 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.



## 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, T8902
- 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:

## Safety Data Sheet

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
3% ~ 5%	Colorants	CAS: Trade secret	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.

## Safety Data Sheet

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

## Safety Data Sheet

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:	Cyan 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:

## Safety Data Sheet

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

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

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

## Safety Data Sheet

- 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.

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.

## Safety Data Sheet

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.

New Jersey Right to know

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

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

15.2. Chemical safety assessment

No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H227 Combustible liquid.

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.

## Safety Data Sheet

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.



## 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, T8903
- 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:

## Safety Data Sheet

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
3% ~ 5%	Colorants	CAS: Trade secret	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.

## Safety Data Sheet

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

## Safety Data Sheet

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:	Magenta 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:	66.0 °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:	5.0 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:

## Safety Data Sheet

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

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

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

## Safety Data Sheet

- 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.

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.

## Safety Data Sheet

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.  
New Jersey Right to know  
Substance(s) listed under New Jersey Right to know:  
Diethylene Glycol Methyl Ethyl Ether  
Dipropylene glycol monomethylether.  
Pennsylvania Right to know  
Substance(s) listed under Pennsylvania Right to know:  
Diethylene Glycol Methyl Ethyl Ether  
Dipropylene glycol monomethylether.

15.2. Chemical safety assessment  
No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:  
H227 Combustible liquid.

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

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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.

## Safety Data Sheet

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.



## 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, T8904
- 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:

## Safety Data Sheet

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
3% ~ 5%	Colorants	CAS: Trade secret	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.

## Safety Data Sheet

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

## Safety Data Sheet

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:	Yellow 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:

## Safety Data Sheet

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

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

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

## Safety Data Sheet

- 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.

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.

## Safety Data Sheet

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.

New Jersey Right to know

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

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

15.2. Chemical safety assessment

No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H227 Combustible liquid.

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.

## Safety Data Sheet

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.



## 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, T8905  
Trade code: T8905
- 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: 27 October, 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

## Safety Data Sheet

### 3.1. Substances

N.A.

### 3.2. Mixtures

Hazardous components within the meaning of GHS regulation and related classifications:

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%	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%	Proprietary organic materials	CAS: Trade secret	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
0.5% ~ 1%	Colorants	CAS: Trade secret	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.

## Safety Data Sheet

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.
  - 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:

## Safety Data Sheet

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  
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:	Cyan 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:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
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.

## Safety Data Sheet

### 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

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

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

## Safety Data Sheet

### 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.

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.

### 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 – Extremely Hazardous Substances: no substances listed.

Section 304 – Hazardous substances: no substances listed.

Section 313 – 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.

## Safety Data Sheet

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.

New Jersey Right to know

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

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

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

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

## Safety Data Sheet

	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.



## 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, T8906

Trade code: T8906

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: 27 October, 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

## Safety Data Sheet

### 3.1. Substances

N.A.

### 3.2. Mixtures

Hazardous components within the meaning of GHS regulation and related classifications:

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%	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%	Proprietary organic materials	CAS: Trade secret	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
0.5% ~ 1%	Colorants	CAS: Trade secret	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.

## Safety Data Sheet

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.
  - 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:

## Safety Data Sheet

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  
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:	Magenta 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:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
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:	5.0 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.

## Safety Data Sheet

### 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

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

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

## Safety Data Sheet

### 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.

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.

### 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 – Extremely Hazardous Substances: no substances listed.

Section 304 – Hazardous substances: no substances listed.

Section 313 – 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.

## Safety Data Sheet

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.  
New Jersey Right to know  
Substance(s) listed under New Jersey Right to know:  
Diethylene Glycol Methyl Ethyl Ether  
Dipropylene glycol monomethylether.  
Pennsylvania Right to know  
Substance(s) listed under Pennsylvania Right to know:  
Diethylene Glycol Methyl Ethyl Ether  
Dipropylene glycol monomethylether.

15.2. Chemical safety assessment  
No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:  
H227 Combustible liquid.

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.

## Safety Data Sheet

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.



## 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, T8907

Trade code: T8907

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: 27 October, 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

## Safety Data Sheet

### 3.1. Substances

N.A.

### 3.2. Mixtures

Hazardous components within the meaning of GHS regulation and related classifications:

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%	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%	Proprietary organic materials	CAS: Trade secret	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
0.5% ~ 1%	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.

## Safety Data Sheet

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.
  - 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:

## Safety Data Sheet

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  
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:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
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.	

## Safety Data Sheet

### 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

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

N.A.

## Safety Data Sheet

- 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.  
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.

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.

## Safety Data Sheet

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: 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

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.

## 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.
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.



## 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, T8908

Trade code: T8908

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: 27 October, 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

## Safety Data Sheet

### 3.1. Substances

N.A.

### 3.2. Mixtures

Hazardous components within the meaning of GHS regulation and related classifications:

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%	Colorants	CAS: Trade secret	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.

## Safety Data Sheet

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.
  - 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:

## Safety Data Sheet

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  
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:	Orange 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:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
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.

## Safety Data Sheet

### 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

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

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

## Safety Data Sheet

### 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.

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.

### 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 – Extremely Hazardous Substances: no substances listed.

Section 304 – Hazardous substances: no substances listed.

Section 313 – 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.

## Safety Data Sheet

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.

New Jersey Right to know

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

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Diethylene Glycol Methyl Ethyl Ether

Dipropylene glycol monomethylether.

15.2. Chemical safety assessment

No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H227 Combustible liquid.

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.

## Safety Data Sheet

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.



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## 1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: Ink Cartridge, T8909

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.  
3131 Katella Ave.  
Los Alamitos, CA 90720  
United States

Telephone : 562.276.1369

Emergency phone number

Telephone : 562.276.1369

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## 2. HAZARD(S) IDENTIFICATION

Classification of the chemical

Warning, Flam. Liq. 4, Combustible liquid.

Label elements

Hazard pictograms:

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

Hazards not otherwise classified identified during the classification process:

None

Ingredient(s) with unknown acute toxicity:

2.7% of this mixture consists of ingredient(s) of unknown acute toxicity.

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:

Qty	Name	Ident. Number	Classification
65% ~ 80%	1-ethoxy-2-(2-methoxyethoxy)ethane	CAS: 1002-67-1 EC: 213-690-5 REACH No.: 01-21202835 43-53	B.6/4 Flam. Liq. 4 H227
10% ~ 12.5 %	gamma-Butyrolactone	CAS: 96-48-0 EC: 202-509-5 REACH No.: 01-21194718 39-21	The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).
5% ~ 7%	(2-Methoxymethylethoxy)propanol	CAS: 34590-94-8 EC: 252-104-2 REACH No.: 01-21194500 11-60	The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).

**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 spray, dry chemical, carbon dioxide or alcohol-resistant foam.

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

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.

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.

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.

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.

Storage temperature:

Store at ambient temperature.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

(2-Methoxymethylethoxy)propanol - CAS: 34590-94-8

- OEL Type: EU - TWA(8h): 308 mg/m<sup>3</sup>, 50 ppm

- OEL Type: ACGIH - TWA(8h): < 0.05 % - STEL: < 0.05 %

DNEL Exposure Limit Values

No data available

PNEC Exposure Limit Values

No data available

Appropriate engineering controls:

None

Individual protection measures

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:

Use personal protective equipment as required.

Thermal Hazards:

None

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour:	Red Liquid
Odour:	Slightly
Odour threshold:	No data available
pH:	Not Relevant
Melting point / freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point:	145 ° F/ 62.5 °C (closed cup method, ASTM D 3278)
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:	Soluble
Solubility in oil:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity:	< 5 mPa·s at 20 °C
Miscibility:	No data available
Fat Solubility:	No data available
Conductivity:	No data available

---

## 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 product:
e) germ cell mutagenicity: Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli Negative
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: 1-ethoxy-2-(2-methoxyethoxy)ethane - CAS: 1002-67-1
a) acute toxicity: Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg
b) skin corrosion/irritation: Test: Skin Irritant - Route: Dermal - 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

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

Substance(s) listed on the IARC Monographs:  
gamma-Butyrolactone - 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.

Toxicological information of the product:

No data available

Toxicological information of the main substances found in the product:

1-ethoxy-2-(2-methoxyethoxy)ethane - 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

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

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## 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:

2-methoxy-1-methylethyl acetate is listed in TSCA §8(a) - PAIR.

#### 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: 1-ethoxy-2-(2-methoxyethoxy)ethane.

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

Substance(s) listed under CERCLA: 1-ethoxy-2-(2-methoxyethoxy)ethane.

#### CAA - Clean Air Act

CAA listed substances:

1-ethoxy-2-(2-methoxyethoxy)ethane 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:

(2-Methoxymethylethoxy)propanol.

#### New Jersey Right to know

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

1-ethoxy-2-(2-methoxyethoxy)ethane

(2-Methoxymethylethoxy)propanol.

#### Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

1-ethoxy-2-(2-methoxyethoxy)ethane

(2-Methoxymethylethoxy)propanol.

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## 16. OTHER INFORMATION

Full text of phrases referred to in Section 3:

H227 Combustible liquid.

Safety Data Sheet dated September 7, 2020, Revision: 1.1

Main bibliographic sources:

- Ref. 1 ·Journal of Occupational Health (JOH) (Japan Society of Occupational Health (JSOH))  
·TLVs and BEIs (ACGIH: American Conference of Governmental Industrial Hygienists)  
·IRIS Carcinogenic Assessment (IRIS: Integrated Risk Information System of US EPA)  
·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006  
·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 ·Annex VI of REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and

packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006  
-TRGS 905, Verzeichnis krebserzeugender, keimzell mutagener oder reproduktionstoxischer Stoffe (AGS: Committee on Hazardous Substances, Germany)

**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.

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).
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.
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).

## 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, T890A

Trade code: T890A

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: 27 October, 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



## Safety Data Sheet

### 3.1. Substances

N.A.

### 3.2. Mixtures

Hazardous components within the meaning of GHS regulation and related classifications:

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
12.5% ~ 15%	Titanium dioxide	CAS: 13463-67-7 EC: 236-675-5	The product is not classified as dangerous according to GHS - Fourth revised edition.
5% ~ 7%	Proprietary organic materials	CAS: Trade secret	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%	Gamma-Butyrolactone	CAS: 96-48-0 EC: 202-509-5	The product is not classified as dangerous according to GHS - Fourth revised edition.
1% ~ 3%	Silica	CAS: 63231-67-4	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

## 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.

### 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.

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

Titanium dioxide - CAS: 13463-67-7

TLV TWA - 10 mg/m<sup>3</sup>

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.

## Safety Data Sheet

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

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:	White 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:	N.A.
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	N.A.
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

## Safety Data Sheet

- None in particular.  
10.6. Hazardous decomposition products  
None.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Toxicological information of the mixture:

N.A.

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

Titanium dioxide - CAS: 13463-67-7

Titanium dioxide is classified as "possibly carcinogenic to human" (Group 2B). In animal chronic inhalation studies, the tumor formulation observed in only rats with animal chronic inhalation study are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, dose not result in inhalation of excessive dust. Epidemiological study to data have not revealed any evidence of the relation between exposure to titanium dioxide and diseases of the respiratory tract beyond general effects of dust.

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

## Safety Data Sheet

- 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.
- 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.

## Safety Data Sheet

### USA - Federal regulations

#### TSCA - Toxic Substances Control Act

List of substances included in the TSCA inventory: Diethylene Glycol Methyl Ethyl Ether, Titanium dioxide, Dipropylene glycol monomethylether, Gamma-Butyrolactone.

List of substances not included in the TSCA inventory: Silica.

TSCA listed substances:

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

#### 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: 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:

Titanium dioxide - Listed as carcinogen.

#### Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

Titanium dioxide

Dipropylene glycol monomethylether.

#### New Jersey Right to know

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

Diethylene Glycol Methyl Ethyl Ether

Titanium dioxide

Dipropylene glycol monomethylether.

#### Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Diethylene Glycol Methyl Ethyl Ether

Titanium dioxide

Dipropylene glycol monomethylether.

### 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

## Safety Data Sheet

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).
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.



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

- 1.1. Product identifier  
Mixture identification:  
Trade name: Ink Cartridge, T890B  
Trade code: T890B
- 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: 12 January, 2016  
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.
-  Warning, Skin Irrit. 2, Causes skin irritation.
- Adverse physicochemical, human health and environmental effects:  
No other hazards
- 2.2. Label elements  
Hazard pictograms:



- Warning
- Hazard statements:  
H227 Combustible liquid.  
H315 Causes skin irritation.
- Precautionary statements:  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P370+P378 In case of fire: Use a dry powder fire extinguisher to extinguish.  
P403 Store in a well-ventilated place.  
P501 Dispose of contents/container in accordance with applicable regulations.



## Safety Data Sheet

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:

Qty	Name	Ident. Number	Classification
65% ~ 80%	Bis(2-ethoxyethyl) ether	CAS: 112-36-7 EC: 203-963-7 REACH No.: 01-21199699 46-13	2.6/4 Flam. Liq. 4 H227  3.2/2 Skin Irrit. 2 H315
15% ~ 20%	gamma-Butyrolactone	CAS: 96-48-0 EC: 202-509-5	The product is not classified as dangerous according to GHS - Fifth revised edition.
1% ~ 3%	aluminium powder (stabilised)	Index number: 013-002-00-1 CAS: 7429-90-5 EC: 231-072-3	 2.1/U Unst. Expl. H200  2.12/2 Water-react. 2 H261  2.7/1 Flam. Sol. 1 H228

### SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

## Safety Data Sheet

### SECTION 5: Firefighting measures

- 5.1. Extinguishing media
  - Suitable extinguishing media:  
CO2 or Dry chemical fire extinguisher.
  - 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 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

## Safety Data Sheet

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

aluminium powder (stabilised) - CAS: 7429-90-5

- OEL Type: ACGIH - LTE(8h): 1 mg/m<sup>3</sup> - Notes: (R), A4 - Pneumoconiosis, LRT irr, neurotoxicity

DNEL Exposure Limit Values

Bis(2-ethoxyethyl) ether - CAS: 112-36-7

Worker Industry: 5.96 mg/m<sup>3</sup> - Exposure: Human Inhalation

Worker Industry: 1.71 mg/kg/day - Exposure: Human Oral

Worker Professional: 50.05 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 3.43 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

Bis(2-ethoxyethyl) ether - CAS: 112-36-7

Target: Fresh Water - Value: 0.001 mg/l

Target: Freshwater sediments - Value: 0.007 mg/kg

Target: Marine water - Value: 0.0001397 mg/l

Target: Marine water sediments - Value: 0.0006778 mg/kg

Target: Air - Value: 0.000001105 mg/m<sup>3</sup>

#### 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

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:

Silver Liquid

Odour:

Slightly

Odour threshold:

N.A.

pH:

Not Relevant

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:

> 78.7 °C / 174 ° F (Cleveland open cup method, JIS K2265-4)

Evaporation rate:

N.A.

Vapour pressure:

N.A.

Relative density:

N.A.

## Safety Data Sheet

Solubility in water:	Insoluble
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 at 25 °C
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:
  - e) germ cell mutagenicity:  
Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli  
Negative
- Toxicological information of the main substances found in the mixture:  
Bis(2-ethoxyethyl) ether - CAS: 112-36-7
  - a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Rat = 4970 mg/kg - Notes: OECD TG No.401
  - c) serious eye damage/irritation:  
Test: Eye Irritant - Species: Rabbit Non-irritant - Notes: OECD TG No.405

If not differently specified, the information required in Regulation (EU) 2015/830 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;

## Safety Data Sheet

j) aspiration hazard.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Bis(2-ethoxyethyl) ether - CAS: 112-36-7

##### a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 10000 mg/l - Duration h: 96

Endpoint: LC50 - Species: Daphnia = 6600 mg/l - Duration h: 96

#### 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) 2015/830

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)

## Safety Data Sheet

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:

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.

### USA - Federal regulations

TSCA - Toxic Substances Control Act  
TSCA inventory: all the components are listed on the TSCA inventory.  
TSCA listed substances:  
Bis(2-ethoxyethyl) ether is listed in TSCA Section 5a - SNUR, Section 12b.  
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: Bis(2-ethoxyethyl) ether.  
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act  
Substance(s) listed under CERCLA: Bis(2-ethoxyethyl) ether.  
CAA - Clean Air Act  
CAA listed substances:  
Bis(2-ethoxyethyl) ether is listed in CAA Section 111, Section 112.  
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:  
Bis(2-ethoxyethyl) ether.  
New Jersey Right to know  
Substance(s) listed under New Jersey Right to know:  
Bis(2-ethoxyethyl) ether.  
Pennsylvania Right to know  
Substance(s) listed under Pennsylvania Right to know:  
No substances listed.

15.2. Chemical safety assessment  
No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:  
H227 Combustible liquid.  
H315 Causes skin irritation.  
H200 Unstable explosives.  
H261 In contact with water releases flammable gases.

## Safety Data Sheet

H228 Flammable solid.

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).
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.