




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

- 1.1. Product identifier
Mixture identification:
Trade name: Ink Cartridge, T892B
Trade code: T892B
- 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.

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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

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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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

- OEL Type: ACGIH - LTE(8h): 1 mg/m³ - Notes: (R), A4 - Pneumoconiosis, LRT irr, neurotoxicity

DNEL Exposure Limit Values

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

Worker Industry: 5.96 mg/m³ - Exposure: Human Inhalation

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

Worker Professional: 50.05 mg/m³ - 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/m³

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.

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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;

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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)

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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.

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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.