



## 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, Metallic Silver, 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:  
EPSON EUROPE B.V.  
Azie building, Atlas ArenA, Hoogoorddreef 5,1101 BA Amsterdam  
Zuidoost The Netherlands  
Phone number: +31-20-314-5000  
Competent person responsible for the safety data sheet:  
chemicals@epson-europe.com  
Date: 26/05/2017  
Revision: 1.0
- 1.4. Emergency telephone number  
Phone number: +31-20-314-5000  
Giftnotruf Berlin; +48 (0) 30 30686 790

### SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture  
EC regulation criteria 1272/2008 (CLP)  
 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:  
H315 Causes skin irritation.  
Precautionary statements:  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
Special Provisions:  
None  
Special provisions according to Annex XVII of REACH and subsequent amendments:  
None
- 2.3. Other hazards  
vPvB Substances: None - PBT Substances: None  
Other Hazards:  
No other hazards

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### SECTION 3: Composition/information on ingredients

3.1. Substances

No

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

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	 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 Regulation EC 1272/2008 (CLP).
1% ~ 3%	aluminium powder (stabilised)	Index number: 013-002-00-1 CAS: 7429-90-5 EC: 231-072-3	 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

### 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.

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- 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 the containers tightly closed.  
Keep away from food, drink and feed.  
Incompatible materials:  
None in particular.  
Instructions as regards storage premises:  
Adequately ventilated premises.
- 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/m<sup>3</sup>  
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

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### 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

#### 8.2.1. Appropriate engineering controls:

Provide a good standard of general ventilation. Use powered wall- or window-mounted fans to supply fresh air - five to ten air changes per hour, with a through draught.

#### 8.2.2. Individual protection measures, such as personal protective equipment

##### Eye protection:

Wear eye protection, if there is a risk of material splashing under work.

##### Protection for skin:

Use chemical protective clothes if there is a risk of splashing the material under work.

##### Protection for hands:

Use chemical protective gloves where there is a risk of skin contact under working, e.g. single-use NBR (nitrile rubber) gloves 0.2 mm thick are acceptable. Do not exceed the breakthrough time or reuse.

##### Respiratory protection:

Not needed for normal use.

##### Thermal Hazards:

None

#### 8.2.3. Environmental exposure 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:	No data available
pH:	Not Relevant
Melting point / freezing point:	No data available
Initial boiling point and boiling range:	No data available
Solid/gas flammability:	No data available
Upper/lower flammability or explosive limits:	No data available
Vapour density:	No data available
Flash point:	> 78.7 °C / 174 ° F
Evaporation rate:	No data available
Vapour pressure:	No data available
Relative density:	No data available
Solubility in water:	Slightly 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 25 °C
Explosive properties:	No data available
Oxidizing properties:	No data available

### 9.2. Other information

Miscibility: No data available

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Fat Solubility:

No data available

Conductivity:

No data available

### 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
  - 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 mixture:  
Bis(2-ethoxyethyl) ether - CAS: 112-36-7
  - a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Rat = 4970 mg/kg
  - c) serious eye damage/irritation:  
Test: Eye Irritant - Species: Rabbit Non-irritant

If not differently specified, the information required in Regulation (EU) 2015/830 listed below must be considered as 'No data available':

- 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.  
Bis(2-ethoxyethyl) ether - CAS: 112-36-7
  - a) Aquatic acute toxicity:  
Endpoint: LC50 - Species: Fish > 10000 mg/l - Duration h: 96

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

- 12.2. Persistence and degradability  
No data available
- 12.3. Bioaccumulative potential  
No data available
- 12.4. Mobility in soil  
No data available
- 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  
No data available
- 14.3. Transport hazard class(es)  
No data available
- 14.4. Packing group  
No data available
- 14.5. Environmental hazards  
No data available
- 14.6. Special precautions for user  
No data available
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
No data available

### 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)
    - 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:
    - Restriction 3
    - Restriction 40
  - Restrictions related to the substances contained:
    - No restriction.
- Where applicable, refer to the following regulatory provisions :

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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):

No data available

15.2. Chemical safety assessment

No

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

H315 Causes skin irritation.

H261 In contact with water releases flammable gases.

H228 Flammable solid.

Hazard class and hazard category	Code	Description
Water-react. 2	2.12/2	Substance or mixture which in contact with water emits flammable gas, Category 2
Flam. Sol. 1	2.7/1	Flammable solid, Category 1
Skin Irrit. 2	3.2/2	Skin irritation, Category 2

This safety data sheet has been completely updated in compliance to Regulation 2015/830.

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

CCNL - Appendix 1

- Ref. 1 ·IARC Monographs on the Evaluation Carcinogenic Risks to Humans (IARC: International Agency for Research on Cancer)
- 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)
- National Toxicology Program (NTP) Report on Carcinogens
- 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
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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.



## Safety Data Sheet

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.