



Safety Data Sheet according to (EC) No 1907/2006

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LOCTITE ECI 1010 0.2KG E&C

SDS No. : 537534
V001.2

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

1.1. Product identifier

LOCTITE ECI 1010 0.2KG E&C

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use:
Conductive PTF ink

1.3. Details of the supplier of the safety data sheet

Henkel Ltd
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000
Fax-no.: +44 1442 278071

ua-productsafety.uk@uk.henkel.com

1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (CLP):

| | |
|--|------------|
| Acute hazards to the aquatic environment H400 Very toxic to aquatic life. | Category 1 |
| Chronic hazards to the aquatic environment H410 Very toxic to aquatic life with long lasting effects. | Category 1 |

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Signal word: Warning

Hazard statement: H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement: P273 Avoid release to the environment.
Prevention

2.3. Other hazards
None if used properly.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Declaration of the ingredients according to CLP (EC) No 1272/2008:

| Hazardous components CAS-No. | EC Number REACH-Reg No. | content | Classification |
|--|-------------------------------|-----------|--|
| Silver >= 99,9 % Ag in powder (< 1 mm) 7440-22-4 | 231-131-3 01-2119555669-21 | 50- 100 % | Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor: 1.000 M factor (Chron Aquat Tox): 1.000 |
| Ethylene glycol, monobutyl ether acetate 112-07-2 | 203-933-3 01-2119475112-47 | 10- 20 % | Acute Tox. 4; Inhalation H332 Acute Tox. 4; Dermal H312 |

**For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.**

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

Prolonged or repeated contact may cause skin irritation.

Prolonged or repeated contact may cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) can be released.
In case of fire, keep containers cool with water spray.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional information:

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

Remove sources of ignition.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid skin and eye contact.

See advice in section 8

Hygiene measures:

Good industrial hygiene practices should be observed.

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Keep away from sources of ignition.

Keep container tightly sealed.

Refer to Technical Data Sheet

7.3. Specific end use(s)

Conductive PTF ink

| |
|---|
| SECTION 8: Exposure controls/personal protection |
|---|

8.1. Control parameters**Occupational Exposure Limits**Valid for
Great Britain

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|--|-----|-------------------|-----------------------------------|--|-----------------|
| Silver 7440-22-4 [SILVER (METALLIC)] | | 0,1 | Time Weighted Average (TWA): | | EH40 WEL |
| Silver 7440-22-4 [SILVER, METALLIC] | | 0,1 | Time Weighted Average (TWA): | Indicative | ECLTV |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] | | | Skin designation: | Can be absorbed through the skin. | EH40 WEL |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] | 50 | 332 | Short Term Exposure Limit (STEL): | | EH40 WEL |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] | 20 | 133 | Time Weighted Average (TWA): | | EH40 WEL |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] | 20 | 133 | Time Weighted Average (TWA): | Indicative | ECLTV |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] | 50 | 333 | Short Term Exposure Limit (STEL): | Indicative | ECLTV |

Occupational Exposure LimitsValid for
Ireland

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|--|-----|-------------------|-----------------------------------|--|-----------------|
| Silver 7440-22-4 [SILVER (METALLIC)] | | 0,1 | Time Weighted Average (TWA): | Indicative OELV | IR_OEL |
| Silver 7440-22-4 [SILVER, METALLIC] | | 0,1 | Time Weighted Average (TWA): | Indicative | ECLTV |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] (EGBEA) | 50 | 333 | Short Term Exposure Limit (STEL): | Indicative OELV | IR_OEL |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] (EGBEA) | 20 | 133 | Time Weighted Average (TWA): | Indicative OELV | IR_OEL |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] (EGBEA) | | | Skin designation: | Can be absorbed through the skin. | IR_OEL |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] | 20 | 133 | Time Weighted Average (TWA): | Indicative | ECLTV |
| 2-Butoxyethyl acetate 112-07-2 [2-BUTOXYETHYL ACETATE] | 50 | 333 | Short Term Exposure Limit (STEL): | Indicative | ECLTV |

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Skin protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|---------------------------|------------------------------------|
| Appearance | paste |
| | silver |
| Odor | Acetate |
| Odour threshold | No data available / Not applicable |
| pH | Not applicable |
| Initial boiling point | 186 °C (366.8 °F) |
| Flash point | 71 °C (159.8 °F) |
| Decomposition temperature | No data available / Not applicable |
| Vapour pressure | No data available / Not applicable |
| Density | 2,2 g/cm ³ |
| () | |
| Bulk density | No data available / Not applicable |
| Viscosity | 10.000 mPa.s |
| () | |
| Viscosity (kinematic) | No data available / Not applicable |
| Explosive properties | No data available / Not applicable |

| | |
|--|------------------------------------|
| Solubility (qualitative) | No data available / Not applicable |
| Solidification temperature | No data available / Not applicable |
| Melting point | No data available / Not applicable |
| Flammability | No data available / Not applicable |
| Auto-ignition temperature | No data available / Not applicable |
| Explosive limits | No data available / Not applicable |
| Partition coefficient: n-octanol/water | No data available / Not applicable |
| Evaporation rate | No data available / Not applicable |
| Vapor density | No data available / Not applicable |
| Oxidising properties | No data available / Not applicable |

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Reaction with strong oxidants.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

Heat, flames, sparks and other sources of ignition.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

Hydrocarbons
carbon oxides.
nitrogen oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General toxicological information:

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Dermal toxicity:

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

Skin irritation:

Prolonged or repeated contact may cause skin irritation.

Eye irritation:

Prolonged or repeated contact may cause eye irritation.

Acute oral toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---|---------------|---------------|-------------------------|------------------|---------|---|
| Silver >= 99,9 % Ag in powder (< 1 mm) 7440-22-4 | LD50 | > 2.000 mg/kg | oral | | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| Ethylene glycol, monobutyl ether acetate 112-07-2 | LD50 | 2.300 mg/kg | oral | | rat | |

Skin corrosion/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---|----------------|------------------|---------|-----------|
| Ethylene glycol, monobutyl ether acetate 112-07-2 | not irritating | | rabbit | BASF Test |

Serious eye damage/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---|----------------|------------------|---------|-----------|
| Ethylene glycol, monobutyl ether acetate 112-07-2 | not irritating | | rabbit | BASF Test |

SECTION 12: Ecological information**General ecological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

12.1. Toxicity**Ecotoxicity:**

Do not empty into drains / surface water / ground water.

Very toxic to aquatic life with long lasting effects.

| Hazardous components CAS-No. | Value type | Value | Acute Toxicity Study | Exposure time | Species | Method |
|---|---------------|--------------|----------------------------|------------------|---|---------------|
| Silver >= 99,9 % Ag in powder (< 1 mm) 7440-22-4 | EC50 | 0,00024 mg/l | Daphnia | 48 h | Daphnia magna | Not specified |
| Ethylene glycol, monobutyl ether acetate 112-07-2 | LC50 | 80 mg/l | Fish | 48 h | Leuciscus idus | DIN 38412-15 |
| Ethylene glycol, monobutyl ether acetate 112-07-2 | EC50 | 37 mg/l | Daphnia | 48 h | Daphnia magna | |
| Ethylene glycol, monobutyl ether acetate 112-07-2 | EC10 | > 500 mg/l | Algae | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | DIN 38412-09 |
| | EC50 | > 500 mg/l | Algae | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | DIN 38412-09 |
| Ethylene glycol, monobutyl ether acetate 112-07-2 | EC10 | 720 mg/l | Bacteria | 17 h | | |

12.2. Persistence and degradability**Persistence and Biodegradability:**

No data available for the product.

| Hazardous components CAS-No. | Result | Route of application | Degradability | Method |
|---------------------------------|--------|-------------------------|---------------|--------|
| | | | | |

| | | | | |
|--|-----------------------|---------|------|--|
| Ethylene glycol, monobutyl ether acetate 112-07-2 | readily biodegradable | aerobic | 76 % | EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test) |
|--|-----------------------|---------|------|--|

12.3. Bioaccumulative potential / 12.4. Mobility in soil**Mobility:**

No data available for the product.

Bioaccumulative potential:

No data available for the product.

| Hazardous components CAS-No. | LogKow | Bioconcentration factor (BCF) | Exposure time | Species | Temperature | Method |
|--|--------|----------------------------------|------------------|---------|-------------|--|
| Ethylene glycol, monobutyl ether acetate 112-07-2 | 1,51 | | | | | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |

12.5. Results of PBT and vPvB assessment

| Hazardous components CAS-No. | PBT/vPvB |
|---|--|
| Silver >= 99,9 % Ag in powder (< 1 mm) 7440-22-4 | Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria |

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Product disposal:

Do not empty into drains / surface water / ground water.

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

080312

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information**14.1. UN number**

| | |
|------|------|
| ADR | 3082 |
| RID | 3082 |
| ADN | 3082 |
| IMDG | 3082 |
| IATA | 3082 |

14.2. UN proper shipping name

| | |
|------|--|
| ADR | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver) |
| RID | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver) |
| ADN | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver) |
| IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Silver) |
| IATA | Environmentally hazardous substance, liquid, n.o.s. (Silver) |

14.3. Transport hazard class(es)

| | |
|------|---|
| ADR | 9 |
| RID | 9 |
| ADN | 9 |
| IMDG | 9 |
| IATA | 9 |

14.4. Packing group

| | |
|------|-----|
| ADR | III |
| RID | III |
| ADN | III |
| IMDG | III |
| IATA | III |

14.5. Environmental hazards

| | |
|------|------------------|
| ADR | not applicable |
| RID | not applicable |
| ADN | not applicable |
| IMDG | Marine pollutant |
| IATA | not applicable |

14.6. Special precautions for user

| | |
|------|-----------------------------------|
| ADR | not applicable Tunnelcode: (E) |
| RID | not applicable |
| ADN | not applicable |
| IMDG | not applicable |
| IATA | not applicable |

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**VOC content < 40 %
(2010/75/EC)**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.