



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

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LOCTITE EDAG PF 410 E&C known as ELECTRODAG PF-410
0.4 KG

SDS No. : 364264
V005.1
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

LOCTITE EDAG PF 410 E&C known as ELECTRODAG PF-410 0.4 KG

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

Intended use:
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):

| | |
|--|------------|
| Serious eye irritation | Category 2 |
| H319 Causes serious eye irritation. | |
| Acute hazards to the aquatic environment | Category 1 |
| H400 Very toxic to aquatic life. | |
| Chronic hazards to the aquatic environment | Category 1 |
| H410 Very toxic to aquatic life with long lasting effects. | |

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Signal word:

Warning

Hazard statement: H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement: P280 Wear eye protection/face protection.
Prevention

2.3. Other hazards
None if used properly.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Base substances of preparation:

solvent
Pigment

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

| Hazardous components CAS-No. | EC Number REACH-Reg No. | content | Classification |
|--|----------------------------|----------|--|
| Carbinol acetate 112-15-2 | 203-940-1 | 25- 50 % | Eye Irrit. 2 H319 |
| Silver >= 99,9 % Ag in powder (<1 mm) 7440-22-4 | 231-131-3 | > 50 % | Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor: 1.000 M factor (Chron Aquat Tox): 1.000 |

**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, consult doctor if complaint persists.

Skin contact:

Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing. If necessary, see a dermatologist.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

EYE: Irritation, conjunctivitis.

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

See section: Description of first aid measures

SECTION 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide, foam, powder
Water spray jet

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in fires.

5.3. Advice for firefighters

Wear full protective clothing.

Wear self-contained breathing apparatus.

Additional information:

Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

General information:

Danger of slipping on spilled product.

6.1. Personal precautions, protective equipment and emergency procedures

Avoid skin and eye contact.

Ensure adequate ventilation.

6.2. Environmental precautions

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

Do not allow to enter the ground / soil.

6.3. Methods and material for containment and cleaning up

Take up with liquid-absorbing material (sand).

Dispose of contaminated material as waste according to Section 13.

6.4. Reference to other sections

See advice in section 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Gloves and safety glasses should be worn

Vapours should be extracted to avoid inhalation.

Avoid open flames and sources of ignition.

Hygiene measures:

Keep away from food, beverages and animal feed.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Temperatures between + 5 °C and + 30 °C

7.3. Specific end use(s)

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 |

Biological Exposure Indices:

None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/suction at the workplace.

Respiratory protection:
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter. This recommendation should be matched to local conditions.

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): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 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:
Goggles which can be tightly sealed.

Skin protection:
Suitable protective clothing

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------|------------------------------------|
| Appearance | liquid liquid silver |
| Odor | Solvent |
| Odour threshold | No data available / Not applicable |
| pH | Not applicable |
| Initial boiling point | 217 °C (422.6 °F) |
| Flash point | 110 °C (230 °F); no method |
| Decomposition temperature | No data available / Not applicable |
| Vapour pressure | No data available / Not applicable |
| Density () | 2,5 g/cm ³ |
| Bulk density | No data available / Not applicable |

| | |
|---|------------------------------------|
| Viscosity (Brookfield; Instrument: RVT; 20 °C (68 °F); speed of rotation: 20 min-1) | 10.000 - 25.000 mPa.s |
| Viscosity (kinematic) | No data available / Not applicable |
| Explosive properties | No data available / Not applicable |
| Solubility (qualitative) (Solvent: Water) | Insoluble |
| 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 | |
| lower | 1,0 % (V) |
| upper | 19,0 % (V) |
| 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.
Peroxides can be formed.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

No decomposition if stored and applied as directed.

10.5. Incompatible materials

See section reactivity

10.6. Hazardous decomposition products

None if used for intended purpose.
In case of fire toxic gases can be released.

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 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Skin irritation:

Prolonged or repeated contact may cause skin irritation.

Eye irritation:

Causes serious 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) |

Acute inhalative toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---------------------------------|---------------|-------|-------------------------|------------------|---------|--------|
|---------------------------------|---------------|-------|-------------------------|------------------|---------|--------|

Acute dermal toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---------------------------------|---------------|-------|-------------------------|------------------|---------|--------|
|---------------------------------|---------------|-------|-------------------------|------------------|---------|--------|

Skin corrosion/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---------------------------------|---------------------|------------------|---------|---|
| Carbinol acetate 112-15-2 | slightly irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

Serious eye damage/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---------------------------------|------------|------------------|---------|---|
| Carbinol acetate 112-15-2 | irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation/ Corrosion) |

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

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

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 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Other adverse effects:

The product contains organic solvents which are insoluble in water. According to the requirements of the ATV regulations for the discharge of wastewater from commercial and industrial plant, organic solvents which are immiscible with water can only be discharged to an extent which corresponds to their solubility in water. The local discharge regulations take precedence.

12.1. Toxicity**Ecotoxicity:**

Very toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential / 12.4. Mobility in soil

No data available.

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:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

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.

080312

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. Packaging 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 73/78 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 25,4 %
(1999/13/EC)**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

National regulations/information (Great Britain):

| | |
|---------|--|
| Remarks | Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, e.g COSHH Essentials. EH40 Occupational Exposure Limits Chemicals (Hazard Information & Packaging for Supply) Regulations. The Personnel Protective Equipment at Work Regulations. The Carriage of Dangerous Goods by Road Regulations. The Health & Safety at Work Act 1974. (Note: Use latest editions/amendments of above referenced documents.) |
|---------|--|

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:

- H319 Causes serious eye irritation.
- 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.