



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

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LOCTITE ECI 1006 E&C

SDS No. : 452646  
V004.0

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

#### 1.1. Product identifier

LOCTITE ECI 1006 E&C

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

Intended use:

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@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):

Skin sensitizer Category 1

H317 May cause an allergic skin reaction.

**Carcinogenicity** Category 1B

**H350 May cause cancer.**

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:



Contains

Hexanoic acid, 2-ethyl-, cobalt(2+) salt

<b>Signal word:</b>	<b>Danger</b>
<b>Hazard statement:</b>	H317 May cause an allergic skin reaction. H350 May cause cancer. H410 Very toxic to aquatic life with long lasting effects.
<b>Supplemental information</b>	Restricted to professional users.
<b>Precautionary statement:</b>	P201 Obtain special instructions before use.
<b>Prevention</b>	P273 Avoid release to the environment. P280 Wear protective gloves/protective clothing.
<b>Precautionary statement:</b>	P308+P313 IF exposed or concerned: Get medical advice/attention.
<b>Response</b>	P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

### 2.3. Other hazards

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

## 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 (>100nm<1mm ) 7440-22-4	231-131-3 01-2119555669-21	50- 100 %	Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M factor (Acute Aquat Tox): 10 M factor (Chron Aquat Tox): 10
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	205-250-6 01-2119524678-29	0,1- < 0,3 %	Skin Sens. 1A H317 Aquatic Acute 1 H400 Aquatic Chronic 3 H412 Eye Irrit. 2 H319 Repr. 1B H360 Carc. 1B H350

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 contact may cause eye irritation.

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: Rash, Urticaria.

#### **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 (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) can be released.

#### **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.

#### **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.

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**

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 container tightly sealed.  
 Refer to Technical Data Sheet

**7.3. Specific end use(s)**

Ink

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**

Valid for  
 Great Britain

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	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	ECTLV
Cobalt bis(2-ethylhexanoate) 136-52-7 [COBALT AND COBALT COMPOUNDS (AS CO)]		0,1	Time Weighted Average (TWA):		EH40 WEL

**Occupational Exposure Limits**

Valid for  
 Ireland

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	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	ECTLV
Cobalt bis(2-ethylhexanoate) 136-52-7 [COBALT & COBALT COMPOUNDS (AS CO)]		0,02	Time Weighted Average (TWA):		IR_OEL

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	aqua (freshwater)		0,00004 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	aqua (marine water)		0,00086 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	sewage treatment plant (STP)		0,025 mg/l				
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	sediment (freshwater)				438,13 mg/kg		
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	sediment (marine water)				438,13 mg/kg		
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	Air						no hazard identified
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	Soil				1,41 mg/kg		
Cobalt bis(2-ethylhexanoate) 136-52-7	aqua (freshwater)		0,0006 mg/l				
Cobalt bis(2-ethylhexanoate) 136-52-7	aqua (marine water)		2,36 µg/l				
Cobalt bis(2-ethylhexanoate) 136-52-7	sediment (freshwater)				9,5 mg/kg		
Cobalt bis(2-ethylhexanoate) 136-52-7	sediment (marine water)				9,5 mg/kg		
Cobalt bis(2-ethylhexanoate) 136-52-7	Soil				10,9 mg/kg		
Cobalt bis(2-ethylhexanoate) 136-52-7	sewage treatment plant (STP)		0,37 mg/l				

**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	Workers	inhalation	Long term exposure - systemic effects		0,1 mg/m3	no hazard identified
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	General population	inhalation	Long term exposure - systemic effects		0,04 mg/m3	no hazard identified
Silver >= 99,9 % Ag as powder (>100nm<1mm ) classified for environment 7440-22-4	General population	oral	Long term exposure - systemic effects		1,2 mg/kg	no hazard identified
Cobalt bis(2-ethylhexanoate) 136-52-7	Workers	Inhalation	Long term exposure - local effects		0,2351 mg/m3	
Cobalt bis(2-ethylhexanoate) 136-52-7	General population	Inhalation	Long term exposure - local effects		0,037 mg/m3	
Cobalt bis(2-ethylhexanoate) 136-52-7	General population	oral	Long term exposure - systemic effects		55,8 µg/kg	

**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;  $\geq 0.4$  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;  $\geq 0.4$  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	liquid
	grey
Odor	None
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	No data available / Not applicable
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	100 °C (212 °F)
Evaporation rate	No data available / Not applicable
Flammability	No data available / Not applicable
Explosive limits	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Relative vapour density:	No data available / Not applicable
Density	2,3 g/cm <sup>3</sup>
( )	
Bulk density	No data available / Not applicable

Solubility	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	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 acids.  
Reacts 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**

Stable under normal conditions of storage and use.

**10.5. Incompatible materials**

See section reactivity.

**10.6. Hazardous decomposition products**

carbon oxides.

**SECTION 11: Toxicological information****General toxicological information:**

Prolonged or repeated contact may cause eye irritation.  
Prolonged or repeated contact may cause skin irritation.

**11.1. Information on toxicological effects****Acute oral toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	LD50	3.129 mg/kg	rat	OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure)

**Acute 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).

Hazardous substances CAS-No.	Value type	Value	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

No data available.

**Skin corrosion/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	not irritating		In vitro	OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method)

**Serious eye damage/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	Category II		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	sensitising		guinea pig	OECD Guideline 406 (Skin Sensitisation)

**Germ cell mutagenicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	negative	in vitro mammalian cell micronucleus test	with and without		OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test)

**Carcinogenicity**

No data available.

**Reproductive toxicity:**

No data available.

**STOT-single exposure:**

No data available.

**STOT-repeated exposure::**

No data available.



**Aspiration hazard:**

No data available.

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

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

**12.1. Toxicity****Toxicity (Fish):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	LC50	0,0012 mg/l	96 h	Pimephales promelas	other guideline:
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	EC10	0,00019 mg/l	217 d	Salmo trutta	OECD Guideline 210 (fish early lite stage toxicity test)

**Toxicity (Daphnia):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	EC50	0,00022 mg/l	48 h	Daphnia magna	other guideline:

**Chronic toxicity to aquatic invertebrates**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	NOEC	0,00032 mg/l	21 d	Daphnia magna	EPA OPPTS 850.1300 (Daphnid Chronic Toxicity Test)

**Toxicity (Algae):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	EC10	0,00016 mg/l	15 d	other:	other guideline:
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	NOEC	0,1506 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	EC50	0,6542 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)

**Toxicity to microorganisms**

No data available.

**12.2. Persistence and degradability**

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	readily biodegradable	aerobic	60 %	10 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

**12.3. Bioaccumulative potential**

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	70	42 d	20 °C	Cyprinus carpio	other guideline:

**12.4. Mobility in soil**

Cured adhesives are immobile.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	4,68		not specified

**12.5. Results of PBT and vPvB assessment**

Hazardous substances CAS-No.	PBT / vPvB
Silver >= 99,9 % Ag in powder (>100nm<1mm ) 7440-22-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Hexanoic acid, 2-ethyl-, cobalt(2+) salt 136-52-7	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.

**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

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

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:
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), 197 (IATA), 969 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

### 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 25 %  
(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:

- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H350 May cause cancer.
- H360 May damage fertility or the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

#### Further information:

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