



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

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LOCTITE TTC-LF 32 known as MM01921 Tinner Cleaner

SDS No. : 181481  
V008.0

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

#### 1.1. Product identifier

LOCTITE TTC-LF 32 known as MM01921 Tinner Cleaner

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

Intended use:

Tip Tinner/Cleaner

#### 1.3. Details of the supplier of the safety data sheet

Henkel Belgium N.V.

Esplanade 1

1020 Brussels

Belgium

Phone: +32 (2) 421 2711

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For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://www.henkel-adhesives.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):

|| The substance or mixture is not hazardous according to Regulation (EC) No 1272/2008 (CLP).

#### 2.2. Label elements

##### Label elements (CLP):

|| The substance or mixture is not hazardous according to Regulation (EC) No 1272/2008 (CLP).

##### Supplemental information

Safety data sheet available on request.

**2.3. Other hazards**

Avoid breathing fumes given out during soldering.

After handling solder wash hands with soap and water before eating, drinking or smoking.

Keep out of reach of children.

Flux fumes may irritate the nose, throat and lungs and may after prolonged/repeated exposure give an allergic reaction (asthma).

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

**Following substances are present in a concentration  $\geq 0,1\%$  and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):**

This mixture does not contain any substances in concentration  $\geq$  the concentration limit that are assessed to be a PBT, vPvB or ED.

**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.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Tin 7440-31-5 231-141-8 01-2119486474-28	25- 50 %			EU OEL
Citric acid 77-92-9 201-069-1 01-2119457026-42	5- < 10 %	Eye Irrit. 2, H319 STOT SE 3, H335		
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7 238-878-4	1- < 5 %			
Silver 7440-22-4 231-131-3 01-2119555669-21	1- < 5 %			EU OEL

**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 water, also under the eyelids, for at least 15 minutes.

Seek medical advice.

**Ingestion:**

Do not induce vomiting.

Seek medical advice.

**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:**

carbon dioxide, foam, powder, water spray jet, fine water spray

**Extinguishing media which must not be used for safety reasons:**

High pressure waterjet

**5.2. Special hazards arising from the substance or mixture**

High temperatures may produce heavy metal dust, fumes or vapours.

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective equipment.

**6.2. Environmental precautions**

Do not let product enter drains.

**6.3. Methods and material for containment and cleaning up**

Scrape up spilled material and place in a closed 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**

Use only in well-ventilated areas.

Avoid skin and eye contact.

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**

Store in a cool place in closed original container.

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

Tip Tinner/Cleaner

## 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
Quartz (SiO <sub>2</sub> ) 14808-60-7 [SILICA, RESPIRABLE CRYSTALLINE]		0,1	Time Weighted Average (TWA):		EH40 WEL
Quartz (SiO <sub>2</sub> ) 14808-60-7 [RESPIRABLE CRYSTALLINE SILICA DUST]		0,1	Time Weighted Average (TWA):		EU OELIII
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

#### 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
Tin 7440-31-5 [TIN (INORGANIC COMPOUNDS AS SN)]		2	Time Weighted Average (TWA):	Indicative	ECLTV
Tin 7440-31-5 [METAL TIN]		2	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Quartz (SiO <sub>2</sub> ) 14808-60-7 [RESPIRABLE CRYSTALLINE SILICA DUST]		0,1	Time Weighted Average (TWA):		EU OELIII
Quartz (SiO <sub>2</sub> ) 14808-60-7 [Silica, crystalline, respirable dust (Cristobalite, Quartz, Tridymite, Tripoli)]		0,1	Time Weighted Average (TWA):	Binding OELV	IR_OEL
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

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Tin 7440-31-5	aqua (freshwater)						no hazard identified
Tin 7440-31-5	aqua (marine water)						no hazard identified
Tin 7440-31-5	sewage treatment plant (STP)						no hazard identified
Tin 7440-31-5	sediment (freshwater)						no hazard identified
Tin 7440-31-5	sediment (marine water)						no hazard identified
Tin 7440-31-5	Air						no hazard identified
Tin 7440-31-5	Soil						no hazard identified
Tin 7440-31-5	Predator						no potential for bioaccumulation

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Tin 7440-31-5	General population	dermal	Long term exposure - systemic effects		80 mg/kg	no hazard identified
Tin 7440-31-5	Workers	inhalation	Long term exposure - systemic effects		71 mg/m3	no hazard identified
Tin 7440-31-5	Workers	dermal	Long term exposure - systemic effects		10 mg/kg	no hazard identified
Tin 7440-31-5	General population	inhalation	Long term exposure - systemic effects		17 mg/m3	no hazard identified
Tin 7440-31-5	General population	oral	Long term exposure - systemic effects		5 mg/kg	no hazard identified

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment.

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

Physical state	solid
Delivery form	Currently under determination
Colour	grey
Odor	mild
Melting point	217 °C (422.6 °F)
Initial boiling point	Not determined
Flammability	Currently under determination
Explosive limits	Not applicable, Product is a solid.
Flash point	None
Auto-ignition temperature	Currently under determination
Decomposition temperature	Currently under determination
pH	Not applicable
Viscosity (kinematic)	Not applicable, Product is a solid.
Solubility (qualitative) (Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Currently under determination
Vapour pressure	Not determined
Vapour pressure	Not determined
Density ( )	3,5 g/cm <sup>3</sup> None
Relative vapour density:	Not applicable, Product is a solid.
Particle characteristics	Currently under determination

### 9.2. Other information

Other information not applicable for this product

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Solder alloy will react with concentrated nitric acid to produce toxic fumes of nitrogen oxides.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

None if used for intended purpose.

### 10.5. Incompatible materials

None if used properly.

### 10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 11: Toxicological information

### 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.

#### 1.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Acute oral toxicity:

May cause irritation to the digestive tract.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Tin 7440-31-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Citric acid 77-92-9	LD50	5.400 mg/kg	mouse	equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity)
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7	LD50	> 5.050 mg/kg	rat	not specified
Silver 7440-22-4	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)

##### Acute dermal 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
Tin 7440-31-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Citric acid 77-92-9	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7	LD50	> 2.000 mg/kg	not specified	not specified

**Acute inhalative toxicity:**

Fumes evolved at soldering temperatures will irritate the nose, throat and lungs.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Tin 7440-31-5	LC50	> 4,75 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

**Skin corrosion/irritation:**

Prolonged or repeated contact may cause skin irritation.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Tin 7440-31-5	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Citric acid 77-92-9	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Silver 7440-22-4	slightly irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**Serious eye damage/irritation:**

Prolonged or repeated contact may cause eye irritation.

Fumes emitted during soldering may irritate the eyes.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Tin 7440-31-5	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Silver 7440-22-4	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

No data available.

**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
Tin 7440-31-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Tin 7440-31-5	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Tin 7440-31-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Citric acid 77-92-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)

**Carcinogenicity**

No data available.

**Reproductive toxicity:**

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

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Tin 7440-31-5	NOAEL P > 1.000 mg/kg NOAEL F1 > 1.000 mg/kg	screening	oral: gavage	rat	OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

**STOT-single exposure:**

No data available.

**STOT-repeated exposure::**

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

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Tin 7440-31-5	NOAEL > 1.000 mg/kg	oral: gavage	28 days daily	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
Citric acid 77-92-9	NOAEL 4.000 mg/kg	oral: gavage	10 d daily	rat	not specified

**Aspiration hazard:**

No data available.

**11.2 Information on other hazards**

not applicable

## 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

#### 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
Tin 7440-31-5	LC50	Toxicity > Water solubility	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Citric acid 77-92-9	LC50	> 250 mg/l	48 h	Leuciscus idus	DIN 38412-15
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7	LC50	> 1.000 mg/l	96 h	not specified	OECD Guideline 203 (Fish, Acute 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
Citric acid 77-92-9	EC50	275 mg/l	24 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7	EC50	> 1.000 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

#### 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
Tin 7440-31-5	NOEC	Toxicity > Water solubility	7 d	Ceriodaphnia dubia	other guideline:

#### 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
Tin 7440-31-5	EC50	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tin 7440-31-5	NOEC	Toxicity > Water solubility	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Citric acid 77-92-9	EC50	> 640 mg/l	7 d	Scenedesmus quadricauda	OECD Guideline 201 (Alga, Growth Inhibition Test)
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7	EC50	> 1.000 mg/l	72 h	not specified	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity to microorganisms

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
Tin 7440-31-5	EC50	Toxicity > Water solubility	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Citric acid 77-92-9	EC0	1.000 mg/l	30 min	not specified	not specified
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7	EC0	> 1.000 mg/l	3 h	not specified	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

#### 12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Citric acid 77-92-9	readily biodegradable	aerobic	79 %	30 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

#### 12.3. Bioaccumulative potential

No data available.

No substance data available.

#### 12.4. Mobility in soil

The product is insoluble and sinks in water.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Citric acid 77-92-9	> -1,8 - -1,6		other guideline:

### 12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Tin 7440-31-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Citric acid 77-92-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Quartz (SiO <sub>2</sub> ), <1% respirable 14808-60-7	According to Annex XIII of regulation (EC) 1907/2006 a PBT and vPvB assessment shall not be conducted for inorganic substances.
Silver 7440-22-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

### 12.6. Endocrine disrupting properties

not applicable

### 12.7. Other adverse effects

No data available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product disposal:

Wherever possible unwanted solder alloy should be recycled for recovery of metal.

Disposal of uncleaned packages:

Dispose of as unused product.

Waste code

06 04 05 - wastes containing other heavy metals

**SECTION 14: Transport information**

- 14.1. UN number**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.2. UN proper shipping name**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.3. Transport hazard class(es)**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.4. Packing group**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.5. Environmental hazards**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.6. Special precautions for user**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.7. Maritime transport in bulk according to IMO instruments**  
not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EC)	< 3,00 %

**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:

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

**Further information:**

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