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

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LOCTITE C 511 99C 5C 1.0MM H known as 99C C511 5C 1.0MM 0.5KG

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

1.1. Product identifier
LOCTITE C 511 99C 5C 1.0MM H known as 99C C511 5C 1.0MM 0.5KG

1.2. Relevant identified uses of the substance or mixture and uses advised against
Intended use:
Solder Wire

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
Fax-no.: +32 (2) 420 7025

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):
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 Contains Morpholinoethyl chloride hydrochloride. May produce an allergic reaction.

2.3. Other hazards
Self classification: product testing according to Classification, Labelling and Packaging Regulation EC/1272/2008, Annex 1, Part 4.
This product contains modified rosin.
Avoid breathing fumes given out during soldering.
Flux fumes may irritate the nose, throat and lungs and may after prolonged/repeated exposure give an allergic reaction (asthma).
After handling solder wash hands with soap and water before eating, drinking or smoking.
Keep out of reach of children.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General chemical description:
Solder materials
Base substances of preparation:
Alloy, lead free
organic acids

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Tin 7440-31-5	231-141-8 01-2119486474-28	50- 100 %	
Rosin, hydrogenated 65997-06-0	266-041-3 01-2119487113-41	1- < 3 %	Aquatic Chronic 2 H411
Morpholinoethyl chloride hydrochloride 3647-69-6	222-881-2	0,1- < 1 %	Aquatic Chronic 3 H412 Acute Tox. 3 H301 Acute Tox. 4 H312 Skin Corr. 1B H314 Skin Sens. 1 H317

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:
After contact with the hot melt: cool with water, seek medical attention.
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
After contact with the hot melt: cool with water, seek medical attention.
Do not rub eyes; mechanical action may cause corneal damage.
Wash with plenty of water immediately and continue for several minutes, holding eyelid open. Consult a doctor.

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

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:
Foam, extinguishing powder, carbon dioxide.
Special powder against metal fire.

Extinguishing media which must not be used for safety reasons:
Do not use water on fires where molten metal is present.

5.2. Special hazards arising from the substance or mixture
The flux medium will give rise to irritating fumes.
See section 10.

5.3. Advice for firefighters
Wear self-contained breathing apparatus.

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
Wear protective equipment.

6.2. Environmental precautions
Do not empty into drains / surface water / ground water.

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
Extraction is necessary to remove fumes evolved during reflow.
When using do not eat, drink or smoke.
Wash hands before breaks and immediately after handling the product.
Avoid breathing fumes given out during soldering.
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.
After handling solder wash hands with soap and water before eating, drinking or smoking.
Ensure adequate ventilation/vacuum off.

7.2. Conditions for safe storage, including any incompatibilities
Store in a cool, dry place.
Refer to Technical Data Sheet

7.3. Specific end use(s)
Solder Wire

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

None

Occupational Exposure Limits

Valid for
Ireland

Ingredient [Regulated substance]	ppm	mg/m^3	Value type	Short term exposure limit category / Remarks	Regulatory list
Tin 7440-31-5 [TIN, METAL (AS SN)]		2	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Tin 7440-31-5 [TIN (INORGANIC COMPOUNDS AS SN)]		2	Time Weighted Average (TWA):	Indicative	ECTLV

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)						
Tin 7440-31-5	aqua (marine water)						
Tin 7440-31-5	sewage treatment plant (STP)						
Tin 7440-31-5	sediment (freshwater)						
Tin 7440-31-5	sediment (marine water)						
Tin 7440-31-5	Air						
Tin 7440-31-5	Soil						
Tin 7440-31-5	Predator						
Rosin, hydrogenated 65997-06-0	aqua (freshwater)		0,0016 mg/l				
Rosin, hydrogenated 65997-06-0	aqua (marine water)		0,00016 mg/l				
Rosin, hydrogenated 65997-06-0	aqua (intermittent releases)		0,016 mg/l				
Rosin, hydrogenated 65997-06-0	sediment (freshwater)				0,007 mg/kg		
Rosin, hydrogenated 65997-06-0	sediment (marine water)				0,0007 mg/kg		
Rosin, hydrogenated 65997-06-0	Soil				0,00045 mg/kg		
Rosin, hydrogenated 65997-06-0	sewage treatment plant (STP)		1000 mg/l				

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	
Tin 7440-31-5	Workers	inhalation	Long term exposure - systemic effects		71 mg/m3	
Tin 7440-31-5	Workers	dermal	Long term exposure - systemic effects		10 mg/kg	
Tin 7440-31-5	General population	inhalation	Long term exposure - systemic effects		17 mg/m3	
Tin 7440-31-5	General population	oral	Long term exposure - systemic effects		5 mg/kg	
Rosin, hydrogenated 65997-06-0	Workers	Inhalation	Long term exposure - systemic effects		117 mg/m3	
Rosin, hydrogenated 65997-06-0	Workers	dermal	Long term exposure - systemic effects		17 mg/kg	
Rosin, hydrogenated 65997-06-0	General population	Inhalation	Long term exposure - systemic effects		35 mg/m3	
Rosin, hydrogenated 65997-06-0	General population	dermal	Long term exposure - systemic effects		10 mg/kg	
Rosin, hydrogenated 65997-06-0	General population	oral	Long term exposure - systemic effects		10 mg/kg	

Biological Exposure Indices:
None

8.2. Exposure controls:

Engineering controls:
Ensure good ventilation/extraction.
Extraction is necessary to remove fumes evolved during reflow.
Ensure adequate ventilation, especially in confined areas.

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment.
Suitable respiratory protection:
In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).
This recommendation should be matched to local conditions.
Filter type: A (EN 14387)

Hand protection:
Wear refractive gloves while working with the hot melt.

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 that covers arms and legs.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:
Wash off any dirt that gets onto the skin with lots of soap and water, skin care.
Do not breathe dust and vapors.
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	solid
	grey
Odor	odourless
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Melting point	227 °C (440.6 °F)
Solidification temperature	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	Product is a solid.
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 (25 °C (77 °F))	7,3 g/cm3
Bulk density	No data available / Not applicable
Solubility	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); 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
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
Avoid contact with acids and oxidizing agents.

10.5. Incompatible materials
See section reactivity.

10.6. Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapors.
See section 5.

SECTION 11: Toxicological information

General toxicological information:
Prolonged or repeated contact may cause skin irritation.
Prolonged or repeated contact may cause eye irritation.
Fumes emitted during soldering may irritate the skin.

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
Tin 7440-31-5	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Rosin, hydrogenated 65997-06-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
Morpholinoethyl chloride hydrochloride 3647-69-6	LD50	96 mg/kg	rat	not specified

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)
Rosin, hydrogenated 65997-06-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
Morpholinoethyl chloride hydrochloride 3647-69-6	LD50	1.502 mg/kg	rat	not specified

Acute inhalative toxicity:

Fumes evolved at soldering temperatures will irritate the nose, throat and lungs. Prolonged or repeated exposure to flux fumes may result in sensitisation in sensitive workers.

No substance 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
Tin 7440-31-5	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/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)

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)

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		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)

Aspiration hazard:

No data available.

SECTION 12: Ecological information

General ecological information:
Self classification: product testing according to Classification, Labelling and Packaging Regulation EC/1272/2008, Annex 1, Part 4.
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
Tin 7440-31-5	LC50		96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Rosin, hydrogenated 65997-06-0	LC50	1,7 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Morpholinoethyl chloride hydrochloride 3647-69-6	LC50	32 mg/l	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	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
Rosin, hydrogenated 65997-06-0	EL50		48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Morpholinoethyl chloride hydrochloride 3647-69-6	EC50	27 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		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		72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Tin 7440-31-5	NOEC		72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Rosin, hydrogenated 65997-06-0	EC50	39,6 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Rosin, hydrogenated 65997-06-0	NOEC	6,25 mg/l	72 h	Pseudokirchneriella subcapitata	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		3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Rosin, hydrogenated 65997-06-0	EC0	> 10.000 mg/l	18 h		not specified

12.2. Persistence and degradability

The product is not biodegradable.

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Rosin, hydrogenated 65997-06-0	readily biodegradable	aerobic	80 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution 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
Rosin, hydrogenated 65997-06-0	> 4		not specified

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.
Rosin, hydrogenated 65997-06-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. 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.
Otherwise dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:
Dispose of as unused product.

Waste code
06 04 05 - wastes containing other heavy metals
06 04 99 Wastes not otherwise specified
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

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. 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 < 1 %
(2010/75/EC)

15.2. Chemical safety assessment
A chemical safety assessment has not been carried out.

National regulations/information (Great Britain):

Remarks	The Health & Safety at Work Act 1974. The Control of Lead at Work Regulations. L132:Control of Lead at Work: Approved Code of Practice and Guidance. The Control of Substances Hazardous to Health Regulations. L5:General Approved Code of Practice to the COSHH Regulations. HS(G)97:A Step by Step Guide to the COSHH Regulations. HS(G)193:COSHH essentials: Easy steps to control chemicals. IND (G)248L:Solder fume and you. IND(G)249L:Controlling health risks from rosin (colophony) based solder fluxes. Employees should be under medical surveillance if the risk assessment made under the Control of Lead at Work Regulations indicates they are likely to be exposed to significant concentrations of lead, or if an Employment Medical Advisor or appointed doctor so certifies. A woman employed on work which exposes her to lead should notify her employer as soon as possible if she becomes pregnant. The Employment Medical Advisor / Appointed Doctor should be informed of the pregnancy. Under the Management of Health and Safety at Work Regulations, employers are required to assess the particular risks to health at work of pregnant workers and workers who have recently given birth or who are breast feeding.

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:

H301 Toxic if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Further information:

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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.