Safety Data Sheet according to Regulation (EC) No1907/2006

SDS No. : 175644
V004.2

LOCTITE MP 100 SN62AGS90 AK known as SN62MP100AGS90

Revision: 13.05.2014
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
LOCTITE MP 100 SN62AGS90 AK known as SN62MP100AGS90

Contains:
Lead

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

1.3. Details of the supplier of the safety data sheet
Henkel Limited
2 Bishop Square Business Park
AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933
Fax-no.: +44 1606 863762

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):

Toxic to reproduction	Category 1A
H360FD May damage fertility. May damage the unborn child.	
Specific target organ toxicity - repeated exposure	Category 1
H372 Causes damage to organs through prolonged or repeated exposure.	
Acute hazards to the aquatic environment	Category 3
H412 Harmful to aquatic life with long lasting effects.	

Classification (DPD):

Toxic for reproduction -
category 1.
R60 May impair fertility.
R61 May cause harm to the unborn child.
Xn - Harmful
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
Dangerous for the environment
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Label elements (CLP):

Hazard pictogram:	
Signal word:	Danger
Hazard statement:	H360FD May damage fertility. May damage the unborn child. H372 Causes damage to organs through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects.
Supplemental information	Restricted to professional users.
Precautionary statement: Prevention	P201 Obtain special instructions before use. P261 Avoid breathing fume. P273 Avoid release to the environment. P281 Use personal protective equipment as required.
Precautionary statement: Response	P308+P313 IF exposed or concerned: Get medical advice/attention.

Label elements (DPD):

T - Toxic

Risk phrases:
R60 May impair fertility.
R61 May cause harm to the unborn child.
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:
S23 Do not breathe fumes.
S53 Avoid exposure - obtain special instructions before use.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37 Wear suitable protective clothing and gloves.

Additional labeling:
Only for professional users.

Contains:
Lead

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.
Contains lead which may harm your health. Lead can cause birth defects and other reproductive harm.
Regulations forbid the use of lead solder in any private or public drinking water supply system.
Do not heat above 500 °C
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.

SECTION 3: Composition/information on ingredients

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- 60 %	
Lead 7439-92-1	231-100-4 01-2119510714-47	30- 40 %	Toxic to reproduction 1 H360FD Specific target organ toxicity - repeated exposure 1 H372 Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
Modified rosin 144413-22-9	434-230-1 01-0000018038-71	1- 5 %	Chronic hazards to the aquatic environment 4 H413
Silver >= 99,9 % Ag in powder (< 1 mm) 7440-22-4	231-131-3	1- 5 %	Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 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.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Tin 7440-31-5	231-141-8 01-2119486474-28	50 - 60 %	
Lead 7439-92-1	231-100-4 01-2119510714-47	30 - 40 %	T - Toxic; R60, R61 Xn - Harmful; R48/20/22 N - Dangerous for the environment; R50/53
Modified rosin 144413-22-9	434-230-1 01-0000018038-71	1 - 5 %	R53
Silver >= 99,9 % Ag in powder (< 1 mm) 7440-22-4	231-131-3	1 - 5 %	N - Dangerous for the environment; R50/53

For full text of the R-Phrases indicated by codes 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

Chronic overexposure to lead may result in damage to the blood forming, nervous, urinary and reproductive systems. Severe lead toxicity will cause sterility, abortion and neonatal mortality and morbidity.

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).

INGESTION: Nausea, vomiting, diarrhoea, abdominal pain.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

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

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

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 let product enter drains.
Do not allow to enter the ground / soil.

6.3. Methods and material for containment and cleaning up

Scrape up spilled material and place in a closed 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
Do not heat above 500 °C
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.

Hygiene measures:
Good industrial hygiene practices should be observed.
Do not eat, drink or smoke while working.
After handling solder wash hands with soap and water before eating, drinking or smoking.

7.2. Conditions for safe storage, including any incompatibilities
Ensure good ventilation/extraction.
Store in original container at temperatures 5-10°C.

7.3. Specific end use(s)
Solder Paste

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Valid for
Great Britain

Ingredient	ppm	mg/m³	Type	Category	Remarks
TIN (INORGANIC COMPOUNDS AS SN) 7440-31-5		2	Time Weighted Average (TWA):	Indicative	ECTLV
LEAD AND LEAD COMPOUNDS, OTHER THAN LEAD ALKYLS (AS PB) 7439-92-1		0,15	Time Weighted Average (TWA):		EH40 WEL
INORGANIC LEAD AND ITS COMPOUNDS 7439-92-1		0,15	Time Weighted Average (TWA):		EU_OEL
LEAD AND ITS IONIC COMPOUNDS 7439-92-1			Biological Limit Value:		EU_OEL_II
SILVER (METALLIC) 7440-22-4		0,1	Time Weighted Average (TWA):		EH40 WEL
SILVER, METALLIC 7440-22-4		0,1	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	
Lead 7439-92-1	aqua (freshwater)					6,5 µg/L	
Lead 7439-92-1	aqua (marine water)					3,4 µg/L	
Lead 7439-92-1	sediment (freshwater)				41 mg/kg		
Lead 7439-92-1	sediment (marine water)				164 mg/kg		
Lead 7439-92-1	soil				147 mg/kg		
Lead 7439-92-1	STP					1 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	worker	Dermal	Acute/short term exposure - systemic effects		133,3 mg/kg	
Tin 7440-31-5	worker	inhalation	Acute/short term exposure - systemic effects		11,75 mg/m3	
Tin 7440-31-5	worker	Dermal	Long term exposure - systemic effects		133,3 mg/kg	
Tin 7440-31-5	worker	inhalation	Long term exposure - systemic effects		11,75 mg/m3	
Tin 7440-31-5	general population	Dermal	Acute/short term exposure - systemic effects		80 mg/kg	
Tin 7440-31-5	general population	inhalation	Acute/short term exposure - systemic effects		3,476 mg/m3	
Tin 7440-31-5	general population	oral	Acute/short term exposure - systemic effects		80 mg/kg	
Tin 7440-31-5	general population	Dermal	Long term exposure - systemic effects		80 mg/kg	
Tin 7440-31-5	general population	inhalation	Long term exposure - systemic effects		3,476 mg/m3	
Tin 7440-31-5	general population	oral	Long term exposure - systemic effects		80 mg/kg	

Biological Exposure Indices:

Ingredient	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
LEAD AND ITS IONIC COMPOUNDS 7439-92-1	Lead	Blood			EU HCA2		

8.2. Exposure controls:

Engineering controls:

Ensure adequate ventilation, especially in confined areas.
Extraction is necessary to remove fumes evolved during reflow.

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

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.

Skin protection:
Wear suitable protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste grey
Odor	Mild
Odour threshold	No data available / Not applicable
pH	not applicable
Initial boiling point	Not determined
Flash point	124 °C (255.2 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	Not determined
Density ()	4,8600 g/cm3
Bulk density	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
Solubility (qualitative)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	179,0 °C (354.2 °F)
Flammability	No data available / Not applicable
Auto-ignition temperature	186 °C (366.8 °F)
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	Not determined
Evaporation rate	No data available / Not applicable
Vapor density	Heavier than air
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity

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

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

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.
Causes damage to organs through prolonged or repeated exposure

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.

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:

Solder pastes may be abrasive to the eyes and the fumes are irritating.

Reproductive toxicity:

May damage fertility. May damage the unborn child.

Other remarks:

Chronic overexposure to lead may result in damage to the blood forming, nervous, urinary and reproductive systems. Severe lead toxicity will cause sterility, abortion and neonatal mortality and morbidity.

Acute oral toxicity:

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

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

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Modified rosin 144413-22-9	moderately irritating	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Modified rosin 144413-22-9	negative with metabolic activation		with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Modified rosin 144413-22-9	NOAEL=1.000 mg/kg	oral: gavage	Test duration: 28 days Dosing regime: 7 days/week	rat	OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

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

12.1. Toxicity

Ecotoxicity:

Self classification: product testing according to Classification, Labelling and Packaging Regulation EC/1272/2008, Annex 1, Part 4.

Harmful to aquatic life with long lasting effects.

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

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Modified rosin 144413-22-9	LC50	> 1 mg/l	Fish	24 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Modified rosin 144413-22-9	EC50	> 1 mg/l	Daphnia	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Modified rosin 144413-22-9	NOEC	>= 0,49 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC50	> 0,49 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

12.2. Persistence and degradability

Persistence and Biodegradability:

The product is not biodegradable.

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Mobility:

The product is insoluble and sinks in water.

Bioaccumulative potential:

Octanol/Water distribution coefficient: Not determined

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB

Lead 7439-92-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Silver >= 99,9 % Ag in powder (< 1 mm) 7440-22-4	Not fulfilling PBT (persistent/bioaccummulative/toxic) criteria

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal:

Wherever possible unwanted solder pastes should be recycled for recovery of metal.
Dispose of as hazardous waste in compliance with local and national regulations.

Disposal of uncleaned packages:

Dispose of as unused product.

Waste code

06 04 05* Waste containing other heavy metals
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, ADNR, IMDG, IATA-DGR.

14.2. UN proper shipping name

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.3. Transport hazard class(es)

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.4. Packaging group

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.5. Environmental hazards

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.6. Special precautions for user

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

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 < 5 %

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 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. The Control of Lead at Work Regulations. L132:Control of Lead at Work: Approved Code of Practice and Guidance. 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:

R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53 May cause long-term adverse effects in the aquatic environment.
R60 May impair fertility.
R61 May cause harm to the unborn child.
H360FD May damage fertility. May damage the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

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.