



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

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SN62MP200AGS90V

sds no. : 153904
V003.0

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

1.1. Product identifier

SN62MP200AGS90V

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 Ireland
Operations and Research Limited
Tallaght Business Park
Dublin 24

Ireland

Phone: +353 (14046444)

Fax-no.: +353 (14519926)

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 (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 (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:

Restricted to professional users.

Contains:

Lead

Contains Rosin. May produce an allergic reaction.

2.3. Other hazards

- Self classification: product testing according to Dangerous Preparations Directive (1999/45/EC; Article 7)
- 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

General chemical description:

Solder paste

Base substances of preparation:

Alloy containing lead
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- 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
Silver >= 99,9 % Ag in powder form (< 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
Modified rosin 144413-22-9	434-230-1 01-0000018038-71	1- 5 %	Chronic hazards to the aquatic environment 4 H413
Rosin 8050-09-7	232-475-7 01-2119480418-32	>= 0,1- < 1 %	Skin sensitizer 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.

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
Silver >= 99,9 % Ag in powder form (< 1 mm) 7440-22-4	231-131-3	1 - 5 %	N - Dangerous for the environment; R50/53
Modified rosin 144413-22-9	434-230-1 01-0000018038-71	1 - 5 %	R53
Rosin 8050-09-7	232-475-7 01-2119480418-32	>= 0,1 - < 1 %	R43

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. Apply replenishing cream. Change all contaminated clothing.
Obtain medical attention if irritation persists.
After contact with the hot melt: cool with water, seek medical attention.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

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:

Carbon dioxide, foam, powder
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

High temperatures may produce heavy metal dust, fumes or vapours.
The flux medium will give rise to irritating fumes.
See section 10.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment.
Keep unprotected persons away.
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.
Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.
Dispose of contaminated material as waste according to Chapter 13.

6.4. Reference to other sections

See advice in chapter 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Wash hands before breaks and immediately after handling the product.
Do not heat above 500 °C
See advice in chapter 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.
- Ensure adequate ventilation/vacuum off.

7.2. Conditions for safe storage, including any incompatibilities

- Store in locked premises or with access restricted to especially instructed personnel.
- 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/m ³	Type	Category	Remarks
TIN (INORGANIC COMPOUNDS AS SN) 7440-31-5		2	Time Weighted Average (TWA):	Indicative	ECLTV
LEAD AND LEAD COMPOUNDS, OTHER THAN LEAD ALKYL (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	ECLTV
ROSIN-BASED SOLDER FLUX FUME 8050-09-7		0,05	Time Weighted Average (TWA):		EH40 WEL
ROSIN-BASED SOLDER FLUX FUME 8050-09-7		0,15	Short Term Exposure Limit (STEL):		EH40 WEL

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	
Rosin 8050-09-7	aqua (marine water)					0,0005 mg/L	
Rosin 8050-09-7	sediment (freshwater)				108 mg/kg		
Rosin 8050-09-7	sediment (marine water)				10,8 mg/kg		
Rosin 8050-09-7	soil				21,4 mg/kg		
Rosin 8050-09-7	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	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/m ³	
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/m ³	
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/m ³	
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/m ³	
Tin 7440-31-5	general population	oral	Long term exposure - systemic effects		80 mg/kg	
Rosin 8050-09-7	worker	inhalation	Long term exposure - systemic effects		176,32 mg/m ³	
Rosin 8050-09-7	general population	inhalation	Long term exposure - systemic effects		52,174 mg/m ³	
Rosin 8050-09-7	general population	dermal	Long term exposure - systemic effects		15 mg/kg bw/day	
Rosin 8050-09-7	general population	oral	Long term exposure - systemic effects		15 mg/kg bw/day	

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.
No further information, see section 7.

Respiratory protection:

Use only in well-ventilated areas.
In case of insufficient ventilation, wear suitable respiratory equipment.
Suitable respiratory protection:
Filter type: A

Hand protection:

The use of chemical resistant gloves such as Nitrile is recommended.
Wear refractive gloves while working with the hot melt.

Eye protection:

Goggles which can be tightly sealed.
and/or
facial protection

Skin protection:

Wear suitable protective clothing.
Protective clothing that covers arms and legs.
apron

Advices to personal protection equipment:

Store working clothes separately.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	liquid pasty grey
Odor	Mild
Odour threshold	No data available / Not applicable
pH	No data available / Not applicable
Initial boiling point	274 °C (525.2 °F)
Flash point	124 °C (255.2 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density (20 °C (68 °F))	4,86 g/cm ³
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) (20 °C (68 °F); Solvent: Water)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	179 °C (354.2 °F)
Flammability	No data available / Not applicable
Auto-ignition temperature	> 185 °C (> 365 °F)
Explosive limits	No data available / Not applicable
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**

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.

Metallic oxides

See section 5.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****General toxicological information:**

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Oral toxicity:

Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Swallowing may cause irritation of mouth, throat and digestive tract, diarrhoea and vomiting

Inhalative toxicity:

Danger of serious damage to health by prolonged exposure by inhalation.

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:

slightly irritating, does not require labeling.

Prolonged or repeated contact may cause skin irritation.

Eye irritation:

slightly irritating, does not require labeling.

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

Sensitizing:

May cause allergic reaction.

Reproductive toxicity:

May cause harm to the unborn child.

May impair fertility.

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 dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Rosin 8050-09-7	LD50	> 2.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Rosin 8050-09-7	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

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)
Rosin 8050-09-7	not irritating		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)
Rosin 8050-09-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

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 preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

If used properly the product does not enter the drains.

12.1. Toxicity**Ecotoxicity:**

Harmful to aquatic organisms.

May cause long-term adverse effects in the aquatic environment.

Self classification: product testing according to Dangerous Preparations Directive (1999/45/EC; Article 7)

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	EC50	> 0,49 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Rosin 8050-09-7	LC50	> 1.000 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Rosin 8050-09-7	EC50	911 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Rosin 8050-09-7	EC50	> 100 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	

12.2. Persistence and degradability**Persistence and Biodegradability:**

The product is not biodegradable.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Rosin 8050-09-7		aerobic	36 - 46 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil**Mobility:**

The product is insoluble and sinks in water.

Bioaccumulative potential:

No data available.

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 form (< 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:**

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 < 1 %

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:

- R43 May cause sensitisation by skin contact.
- 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.
- H317 May cause an allergic skin reaction.
- 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.

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