

Material Safety Data Sheet

Section 1. Identification of the substance/mixture and of the company/undertaking

Manufacturer : Premier Farnell
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Leeds LS12 2QQ

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Emergency Contacts : +44 (0) 870 202530

Product identifier : 60EN 309 5C 0.5MM 0.25KG FN

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

Section 2. Hazards Identification

Classification of the substance or mixture

Classification (CLP):

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

Classification (DPD):

The product is not subject to classification according to the calculation methods of the "General Classification Guideline for preparations of the EC" as issued in the last version.

Label elements

Supplemental information

Contains Rosin; Rosin, reaction products with acrylic acid. May produce an allergic reaction.

Label elements (DPD):

The product is not subject to classification according to the calculation methods of the "General Classification Guideline for preparations of the EC" as issued in the last version.

Contains Rosin. May produce an allergic reaction.

Other Hazards

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.

Regulations forbid the use of lead solder in any private or public drinking water supply system.

Do not heat above 500°C

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 - < = 100%	
Lead 7439-92-1	231-100-4 01-2119513221-59	> = 25 - <50%	

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Hazardous components CAS-No.	EC Number REACH-Reg No.	Content	Classification
Rosin 8050-09-7	232-475-7 01-2119480418-32	> = 0.1 - <1%	Skin sensitizer 1 H317
Rosin, reaction products with acrylic acid 83137-13-7	280-192-2	>= 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 - < = 100%	
Lead 7439-92-1	231-100-4 01-2119513221-59	> = 25 - <50%	
Rosin 8050-09-7	232-475-7 01-2119480418-32	> = 0.1 - <1%	R43
Rosin, reaction products with acrylic acid 83137-13-7	280-192-2	> = 0.1 - <1%	Xi - Irritant; 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

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:

Flush eyes with plenty of water for at least 5 minutes. If irritation persists seek medical attention.

Ingestion:

Do not induce vomiting.

Seek medical advice.

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).

Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

Section 5: Fire fighting Measures

Combustion behaviour:

The product itself does not burn. Any fire extinguishing action should be appropriate to the surroundings.

Extinguishing media

Suitable extinguishing media:

Carbon dioxide, foam, powder
Fine water spray

Extinguishing media which must not be used for safety reasons:

Do not use water on fires where molten metal is present.

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.

Advice for firefighters

Wear self-contained breathing apparatus.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment.

Environmental precautions

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

Methods and material for containment and cleaning up

Scrape up spilled material and place in a closed container for disposal.

Reference to other sections

See advice in chapter 8

Section 7: Handling and Storage

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.

See advice in chapter 8

Avoid breathing fumes given out during soldering.

Do not heat above 500°C

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.

Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Store in a cool, dry place.

Specific end use(s)

Solder Wire

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Section 8: Exposure Controls/Personal Protection

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	ECTLV
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
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

Colophony (Rosin) and derivatives: Rosin-based flux fume as total resin acids.

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)					5.6 µg/L	
Lead 7439-92-1	Aqua (Marine water)					3.4 µg/L	
Lead 7439-92-1	Sediment (Freshwater)				174 mg/kg		
Lead 7439-92-1	Sediment (Marine water)				164 mg/kg		
Lead 7439-92-1	Soil				147 mg/kg		
Lead 7439-92-1	Oral					10.9 mg/kg Food	
Lead 7439-92-1	STP					100 µg/L	
Rosin 8050-09-7	Aqua (Freshwater)					0.005 mg/L	
Rosin 8050-09-7	Aqua (Marine water)					0.0005 mg/L	
Rosin 8050-09-7	Sediment (Freshwater)				108 mg/kg		

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Name on list	Environmental Compartment	Exposure Period	Value				Remarks
			mg/l	ppm	mg/kg	Others	
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					1,000 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	

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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		

Exposure controls:

Engineering controls:

Extraction is necessary to remove fumes evolved during reflow.

Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

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.

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter.

This recommendation should be matched to local conditions.

Hand protection:

Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.

The use of chemical resistant gloves such as Nitrile is recommended.

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

Information on basic physical and chemical properties

Appearance	Solid Grey
Odor	None
Odour threshold	No data available / Not applicable
pH	not applicable
Initial boiling point	Not determined
Flash point	not applicable
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density (20 °C (68 °F))	8,5 g/cm ³
Bulk density	No data available / Not applicable

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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	183,0 - 188,0 °C (361.4 - 370.4 °F)
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

Other information

No data available / Not applicable

Section 10: Stability and Reactivity

Reactivity

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

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

See section reactivity

Conditions to avoid

No decomposition if stored and applied as directed.

Incompatible materials

None if used properly.

Hazardous decomposition products

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

Section 11: Toxicological Information

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.

Oral toxicity:

This material is considered to have low toxicity if swallowed.

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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:

This product is considered to have low dermal toxicity.

Skin irritation:

Fumes emitted during soldering may irritate the skin.

Eye irritation:

Fumes emitted during soldering may irritate the eyes.

Sensitizing:

May cause an allergic skin reaction.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
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Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
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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
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
Rosin 8050-09-7	Negative	Bacterial reverse mutation assay (e.g Ames test)	With and Without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

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.

Toxicity

Ecotoxicity:

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

Hazardous components CAS-No.	Value Type	Value	Acute Toxicity Study	Exposure Time	Species	Method
Rosin 8050-09-7	LC50	> 1.000 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Rosin 8050-09-7	EC50	911 mg/l	Daphnia	48 h	Daphnia magna	
Rosin 8050-09-7	EC50	> 100 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	

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)

Bioaccumulative potential / Mobility in soil

Mobility:

The product is insoluble and sinks in water.

Bioaccumulative potential:

Octanol/Water distribution coefficient: Not applicable

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.
Rosin 8050-09-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Section 13: Disposal considerations

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

Section 14: Transport information

1	UN number Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR
2	UN proper shipping name Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.
3	Transport hazard class(es) Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.
4	Packaging group Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.
5	Environmental hazards Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.
6	Special precautions for user Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.
7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

Section 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

VOC content <3%
(1999/13/EC)

Chemical safety assessment

A chemical safety assessment has not been carried out.

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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:

R43 May cause sensitisation by skin contact.

H317 May cause an allergic skin reaction.

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.

Part Number
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