



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

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sds no. : 243913
V003.3

LOCTITE 425-01 known as RS425-9379 FLUX PEN

Revision: 16.10.2013
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

LOCTITE 425-01 known as RS425-9379 FLUX PEN

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

Intended use:
Liquid Flux

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):

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.

2.2. Label elements

Label elements (CLP):

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

Supplemental information EUH210 Safety data sheet available on request.

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.

Additional labeling:

Safety data sheet available for professional user on request.

2.3. Other hazards

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.

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
Glutaric acid 110-94-1	203-817-2	1- 5 %	Serious eye irritation 2 H319
Adipic acid 124-04-9	204-673-3 01-2119457561-38	1- 5 %	Serious eye irritation 2 H319

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
Glutaric acid 110-94-1	203-817-2	1 - 5 %	Xi - Irritant; R36
Adipic acid 124-04-9	204-673-3 01-2119457561-38	1 - 5 %	Xi - Irritant; R36

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.
Seek medical advice.

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

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

Combustion behaviour:

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

5.1. Extinguishing media

Suitable extinguishing media:

water, carbon dioxide, foam, powder

5.2. Special hazards arising from the substance or mixture

None

The flux medium will give rise to irritating fumes.

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.

Avoid contact with skin and eyes.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent.

Store in a closed container until ready for disposal.

6.4. Reference to other sections

See advice in chapter 8

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing fumes given out during soldering.

Use only in well-ventilated areas.

Avoid skin and eye contact.

See advice in chapter 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.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container.

Ensure good ventilation/extraction.

7.3. Specific end use(s)
Liquid Flux**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for
Great Britain

None

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Adipic acid 124-04-9	STP					59,1 mg/L	
Adipic acid 124-04-9	aqua (freshwater)					0,126 mg/L	
Adipic acid 124-04-9	aqua (marine water)					0,0126 mg/L	
Adipic acid 124-04-9	aqua (intermittent releases)					0,46 mg/L	
Adipic acid 124-04-9	sediment (freshwater)				0,484 mg/kg		
Adipic acid 124-04-9	sediment (marine water)				0,0484 mg/kg		
Adipic acid 124-04-9	soil				0,0228 mg/kg		

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Adipic acid 124-04-9	general population	oral	Acute/short term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	Dermal	Long term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	oral	Long term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	inhalation	Long term exposure - systemic effects		65 mg/m3	
Adipic acid 124-04-9	worker	Dermal	Acute/short term exposure - systemic effects		38 mg/kg bw/day	
Adipic acid 124-04-9	worker	inhalation	Acute/short term exposure - systemic effects		264 mg/m3	
Adipic acid 124-04-9	worker	inhalation	Acute/short term exposure - local effects		5 mg/m3	
Adipic acid 124-04-9	worker	Dermal	Long term exposure - systemic effects		38 mg/kg bw/day	
Adipic acid 124-04-9	worker	inhalation	Long term exposure - systemic effects		264 mg/m3	
Adipic acid 124-04-9	worker	inhalation	Long term exposure - local effects		5 mg/m3	
Adipic acid 124-04-9	general population	Dermal	Acute/short term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	inhalation	Acute/short term exposure - systemic effects		65 mg/m3	

Biological Exposure Indices:

None

8.2. Exposure controls:**Engineering controls:**

Ensure adequate ventilation, especially in confined areas.

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

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; \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.

Skin protection:

Wear suitable protective clothing.

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

Appearance	liquid
Odor	Clear, Colorless
Odour threshold	None
	No data available / Not applicable
pH	acidic
Initial boiling point	100,0 °C (212 °F)
Flash point	Not applicable
Decomposition temperature	No data available / Not applicable
Vapour pressure (20,0 °C (68 °F))	2,3300000 kPa
Density ()	1,0110 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)	Soluble
Solidification temperature	No data available / Not applicable
Melting point	0,0 °C (32 °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	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**

Strong oxidizing agents.
Acids.
Strong bases.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

No decomposition if stored and applied as directed.

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.

Oral toxicity:

This material is considered to have low toxicity if swallowed.

Inhalative toxicity:

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

Skin irritation:

Prolonged or repeated contact may cause skin irritation.

Eye irritation:

Prolonged or repeated contact may cause eye irritation.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Adipic acid 124-04-9	LD50	5.560 mg/kg	oral		rat	

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Adipic acid 124-04-9	LC50	> 7,7 mg/l	inhalation	4 h	rat	

Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
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Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Adipic acid 124-04-9	slightly irritating		rabbit	

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Adipic acid 124-04-9	moderately irritating		rabbit	

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Adipic acid 124-04-9	not sensitising		guinea pig	

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Adipic acid 124-04-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		

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:

Do not empty into drains / surface water / ground water.
No data available for the product.

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Glutaric acid 110-94-1	LC50	330 mg/l	Fish	24 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Adipic acid 124-04-9	LC50	97 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Adipic acid 124-04-9	EC50	85,7 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Adipic acid 124-04-9	EC50	> 100 mg/l	Algae			OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC0	> 100 mg/l	Algae			OECD Guideline 201 (Alga, Growth Inhibition Test)

12.2. Persistence and degradability

Persistence and Biodegradability:

No data available.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Glutaric acid 110-94-1	readily biodegradable		100 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Adipic acid 124-04-9	readily biodegradable	no data	96 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Mobility:

No data available.

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Glutaric acid 110-94-1	-0,29					
Adipic acid 124-04-9	0,081				25 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)

12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB

Adipic acid
124-04-9

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:

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

Waste code

16 10 02 - aqueous liquid wastes other than those mentioned in 16 10 01

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.

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:

R36 Irritating to eyes.
H319 Causes serious eye irritation.

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.

This safety data sheet was prepared in accordance with Council Directive 67/548/EEC and its subsequent amendments, and
Commission Directive 1999/45/EC.