

## SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Trade Name</b>	LINQALLOY™ SP-PSA525
<b>Applications:</b>	Solder paste for surface mount technology
<b>Advised Against</b>	No further relevant information is available
<b>Supplier Name</b>	Caplinq Europe BV

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## SECTION 2. HAZARDS IDENTIFICATION

### PROPOSED CLASSIFICATION

<b>Repr. 1A</b>	H360FD-H362
<b>STOT RE 1</b>	H372
<b>Aquatic Acute 1</b>	H400
<b>Aquatic Chronic 1</b>	H410

### HAZARD PICTOGRAMS



GHS08



GHS09

### SIGNAL WORD

Danger

**Hazard-determining components of labelling: Lead**

### HAZARD STATEMENTS

<b>H360FD-H362</b>	May damage fertility. May damage the unborn child. May cause harm to breast-fed children.
<b>H372</b>	Causes damage to organs through prolonged or repeated exposure.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.

### PRECAUTIONARY STATEMENTS

<b>P260</b>	Do not breathe dusts or mists.
<b>P263</b>	Avoid contact during pregnancy and while nursing.
<b>P264</b>	Wash thoroughly after handling.
<b>P273</b>	Avoid release to the environment.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
<b>P308+P313</b>	IF exposed or concerned: Get medical advice/attention.
<b>P405</b>	Store locked up.
<b>P501</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

**ADDITIONAL INFORMATION**

Restricted to professional users.

EUH201 Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.

**OTHER HAZARDS****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

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**SECTION 3. INGREDIENT COMPOSITION**

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**Solder Alloy (88.5±0.5%)**

No.	Components	CAS Reg. No.	Proportion (%)
1	Sn	7440-31-5	4.0 – 4.25
2	Pb	7439-92-1	78.6 – 83.2
3	Ag	7440-22-4	2.13 – 2.25

**Flux Paste (12.0±0.5%)**

No.	Components	CAS Reg. No.	Proportion (%)
4	Flux	65997-05-9	4.0 – 6.0
5	Surfactant	10035-10-5	2.0 – 3.0
6	Active agent	505-48-6	0.2 – 0.9
7	Organic solvent	102-06-0	4.0 – 5.0
8	Thixotropic agent	8001-78-3	< 0.5

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**SECTION 4. FIRST-AID MEASURES**

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**Description of first aid measures****General information:**

Take affected persons out of danger area and lay down.

In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation:** Supply fresh air.**After skin contact:** Generally the product does not irritate the skin.**After eye contact:** Rinse opened eye for several minutes under running water. Remove contact lenses, if present and easy to do. Continue rinsing.**After swallowing:** Rinse out mouth and then drink plenty of water.**Most important symptoms and effects, both acute and delayed:** No further relevant information available.**Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

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## SECTION 5. FIRE FIGHTING MEASURES

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### EXTINGUISHING MEDIA

**Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
Use fire extinguishing methods suitable to surrounding conditions.

**For safety reasons unsuitable extinguishing agents:**

Water with full jet

**SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE**

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide

Carbon dioxide

Lead oxide

**ADVICE FOR FIREFIGHTERS****Protective equipment:**

Wear self-contained respiratory protective device.

**Additional information**

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

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**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:**

Ensure adequate ventilation.

Wear protective clothing.

Avoid formation of dust.

Keep away from ignition sources.

**ENVIRONMENTAL PRECAUTIONS:**

Do not allow product to reach sewage system or any water course.

**METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:**

Pick up mechanically.

Dispose of the material collected according to regulations.

**REFERENCE TO OTHER SECTIONS**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## SECTION 7. HANDLING AND STORAGE

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**PRECAUTIONS FOR SAFE HANDLING**

Prevent formation of dust.

Any unavoidable deposit of dust must be regularly removed.

Ensure good ventilation/exhaustion at the workplace.

**Information about fire and explosion protection:**

Dust can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

## CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

### Storage:

**Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

**Information about storage in one common storage facility:** Store away from oxidising agents.

**Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

## SPECIFIC END USE(S)

No further relevant information available.

## SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### CONTROL PARAMETERS

**Ingredients with Limit values that require monitoring at the workplace:**

#### CAS: 7440-31-5 tin

OEL (Ireland) Short-term value: 0.2\*\* mg/m<sup>3</sup>  
Long-term value: 2\* 0.1\*\* mg/m<sup>3</sup>  
IOELV,\*metal, oxide, inorg.compds.,\*\*org. compds.

#### CAS: 7439-92-1 lead

OEL (Ireland) Long-term value: 0.15 mg/m<sup>3</sup>  
Repr1A, BOELV  
BOELV (EU) Long-term value: 0.15 mg/m<sup>3</sup>  
as Pb

### PNECs

#### CAS: 7439-92-1 lead

PNEC(aqua) 0.0024 mg/L (freshwater)  
0.0033 mg/L (marine water)  
PNEC(STP) 0.1 mg/L (sewage treatment plant)  
PNEC(sediment) 186 mg/kg sedi. dw (freshwater)  
168 mg/kg sedi. dw (marine water)  
PNEC(soil) 212 mg/kg soil dw (soil)  
PNEC(oral) 10.9 kg/kg food (food)

### EXPOSURE CONTROLS

**Appropriate engineering controls** No further data; see section 7.

**Individual protection measures, such as personal protective equipment**

**General protective and hygienic measures:**

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Store protective clothing separately.

Do not inhale gases / fumes / aerosols.

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use selfcontained

respiratory protective device.

**Hand protection**



Protective gloves

Only use chemical-protective gloves with CE-labelling of category III.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**Material of gloves**

Neoprene gloves

Leather gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the

glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye/face protection:** Safety glasses

**Body protection:** Protective work clothing

**Environmental exposure controls:** No further relevant information available.

**EXPOSURE LIMITS**

No.	Components	CAS Reg. No.	ACGIH TLV-TWA (mg/m <sup>3</sup> )	OSHA PEL-TWA (mg/m <sup>3</sup> )
1	Sn	7440-31-5	2.00	2.00
2	Pb	7439-92-1	0.05	0.05
3	Ag	7440-22-4	0.15	0.05
4	Flux	65997-05-9	NE	NE
5	Surfactant	10035-10-5	NE	NE
6	Active agent	505-48-6	0.2	0.2
7	Organic solvent	102-06-0	NE	NE
8	Thixotropic agent	8001-78-3	NE	NE

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**


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<b>Appearance</b>	Silver gray paste
<b>Odor</b>	Mild odor
<b>Melting Point</b>	287 °C (Liquidus temperature)
<b>Flash Point</b>	> 300 °C
<b>Specific Gravity [g/cm<sup>3</sup>]</b>	7.5–8.5
<b>Solubility</b>	Not soluble in water

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**SECTION 10. STABILITY & REACTIVITY**


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**Reactivity** No further relevant information available.

**Chemical stability** No decomposition if used and stored according to specifications.

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**Possibility of hazardous reactions** No dangerous reactions known.

**Conditions to avoid** No further relevant information available.

**Incompatible materials:** No further relevant information available.

**Hazardous decomposition products:** No dangerous decomposition products known.

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## SECTION 11. TOXICOLOGICAL INFORMATION

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**Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Acute toxicity** Based on available data, the classification criteria are not met.

**LD/LC50 values relevant for classification:**

**CAS: 7439-92-1 lead**

Oral LD50 > 2000 mg/kg (Rat) (OECD Guideline 423)

Dermal LD50 > 2000 mg/kg (Rat) (OECD Guideline 402)

Inhalative LC50 (4h) > 5.05 mg/L (Rat) (OECD Guideline 403)

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

**Germ cell mutagenicity** Based on available data, the classification criteria are not met.

**Carcinogenicity** Based on available data, the classification criteria are not met.

**Reproductive toxicity**

May damage fertility. May damage the unborn child. May cause harm to breast-fed children.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard** Based on available data, the classification criteria are not met.

**Information on other hazards:**

**Endocrine disruptive properties** None of the ingredients is listed.

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## SECTION 12. ECOLOGICAL INFORMATION

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### TOXICITY

#### Aquatic toxicity

**CAS: 7439-92-1 lead**

LC50 (48h) 0.07356 mg/L (Daphnia) (Ceriodaphnia dubia)

LC50 (96h) (static) 0.107 mg/L (fish) (Oncorhynchus mykiss)

EC10 (static) 1.06 mg/L (Bacteria)

24 h

EC50 (72h) 0.0205 mg/L (algae) (OECD Guideline 201, Pseudokirchneriella subcapitata)

NOEC (30d) (dynamic) 0.293 mg/L (fish) (Pimephales promelas)

NOEC 0.1538 mg/L (Daphnia) (Alona rectangula)

25 d

NOEC (48h) (static) 0.034 mg/L (Daphnia)

**Persistence and degradability** No further relevant information available.

#### Bioaccumulative potential

7439-92-1 lead 1,553 BCF

**Mobility in soil** No further relevant information available.

**Results of PBT and vPvB assessment** Not applicable.

#### Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

**Other adverse effects** No further relevant information available.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Recommendation:** Must be specially treated adhering to official regulations.

### Uncleaned packaging

**Recommendation:** Disposal must be made according to official regulations.

## SECTION 14. TRANSPORT INFORMATION

### UN number or ID number

ADR/RID/ADN, IMDG, IATA

UN3077

### UN proper shipping name

ADR/RID/ADN

3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID, N.O.S. (lead)

### IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (lead), MARINE POLLUTANT

### IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (lead)

### Transport hazard class(es)

ADR/RID/ADN, IMDG, IATA



### Class

9 Miscellaneous dangerous substances and articles.

### Label

9

### Packing group

ADR/RID/ADN, IMDG, IATA III

### Environmental hazards:

Product contains environmentally hazardous substances: lead

### Marine pollutant:

Symbol (fish and tree)

### Special marking (ADR/RID/ADN):

Symbol (fish and tree)

### Special marking (IATA):

Symbol (fish and tree)

### Special precautions for user Warning:

Miscellaneous dangerous substances and articles.

### Hazard identification number (Kemler code):

90

### EMS Number:

F-A,S-F

### Stowage Category

A

### Stowage Code

SW23 When transported in BK3 bulk container, see 7.6.2.12 and  
7.7.3.9.

### Maritime transport in bulk according to IMO

### instruments

Not applicable.

### Transport/Additional information:

ADR/RID/ADN

### Tunnel restriction code

(-)

### UN "Model Regulation":

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,  
SOLID, N.O.S. (LEAD), 9, III

## SECTION 15. REGULATORY INFORMATION

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

**Directive 2012/18/EU**

**Named dangerous substances - ANNEX I** None of the ingredients is listed.

**Seveso category** E1 Hazardous to the Aquatic Environment

**Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t

**Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

**REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 30, 63, 72

**Regulation (EU) No 649/2012**

CAS: 7439-92-1 lead: Annex I Part

**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronics equipment - Annex II**

CAS: 7439-92-1 lead

REGULATION (EU) 2019/1148

**Annex I - RESTRICTION EXPLOSIVES PRECURSORS (Upper limit for the purpose of licensing under article 5(3))**

None of the ingredients is listed.

**Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

**Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

**Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

**National regulations:**

**Other regulations, limitations and prohibitive regulations**

Substances of very high concern (SVHC) according to REACH, Article 57

CAS: 7439-92-1 lead

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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## SECTION 16. OTHER INFORMATION

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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

H360D May damage the unborn child.

H360FD May damage fertility. May damage the unborn child.

H362 May cause harm to breast-fed children.

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.

**Version number of previous version:** 1.00

**Abbreviations and acronyms:**

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

UN: United Nations (also UNO: United Nations Organization)

NOEC: No Observed Effect Concentration

OECD: Organisation for Economic Co-operation and Development

ASTM: American Society for Testing and Materials

WAF: Water Accommodated Fraction

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)



IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Repr. 1A: Reproductive toxicity – Category 1A

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1