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SAFETY DATA SHEET - LINQALLOY™ Sn96.5Ag3.0Cu0.5 Series

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	:	CAPLINQ™ SAC305 SERIES	
SUPPLIER NAME	:	CAPLINQ Europe BV Industrieweg 15EE 1566 JN Assendelft The Netherlands +31 20 893 2224	CAPLINQ Corporation 80 Sirocco Crescent Ottawa ON, K2S 2C9 Canada +1 (613) 482 2215
SDS NUMBER	:	CAPLINQ Sn96.5Ag3.0Cu0.5	
CHEMICAL NAME	:	CAPLINQ Sn96.5Ag3.0Cu0.5 Series Solder Spheres & Preforms	
CAS NUMBER	:	Not applicable	
DOT HAZARD CLASS	:	Not required	
TRADE NAMES	:	CAPLINQ Sn96.5Ag3.0Cu0.5 Solder Spheres & Preforms CAPLINQ SAC305 Solder Spheres & Preforms	

SECTION 2. HAZARDS IDENTIFICATION

A. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

Classification according to the European Regulation N°1272/2008 and N°286/2011:
Not Classified

B. LABEL ELEMENTS:

Classification according to the European Regulation N°1272/2008 and N°286/2011:

Hazard pictograms

No hazard pictograms

Signal word

No signal word

Hazard statements

Not applicable

C. OTHER HAZARDS:

Other hazards which do not result in classification: None known

SECTION 3. INGREDIENT COMPOSITION

Chemical Characterization: Article

Dangerous Components: There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

CAS/EINECS #	INGREDIENT	WEIGHT %	CLASSIFICATION
CAS: 7440-31-5 EINECS: 231-141-8	Tin	90-100%	Not classified
CAS: 7440-22-4 EINECS: 231-131-3	Silver	1-5%	Not classified
CAS: 7440-50-8 EINECS: 231-159-6	Copper	<1%	Not classified

SECTION 4. FIRST AID MEASURES

INHALATION:

Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately.

SKIN:

Flush contaminated skin with plenty of water. Cuts should be treated promptly and covered. Get medical attention if symptoms occur

EYE:

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

INGESTION:

Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

In all cases of doubt, or when symptoms persist, seek medical attention.

SYMPTOMS & EFFECTS:Potential acute health effects

Inhalation : Not applicable.

Ingestion : Not applicable.

Skin contact : No known significant effects or critical hazards.

Eye contact : Not applicable.

Over-exposure signs/symptoms

Inhalation No specific data.

Ingestion : No specific data.

Skin contact : No specific data.

Eye contact: No specific data.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.



Specific treatments: No specific treatment

SECTION 5. FIRE FIGHTING MEASURES

FIRE

No specific fire or explosion hazard. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

HAZARDOUS DECOMPOSITION / COMBUSTION PRODUCTS

Decomposition products may include the following materials: metal oxide/oxides.

SUITABLE EXTINGUISHING MEDIA

Use an extinguishing agent suitable for the surrounding fire.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Small spill : Move containers from spill area. Prevent entry in

UNSUITABLE EXTINGUISHING MEDIA

None known.

SPECIAL FIRE FIGHTING PROCEDURES

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. No special protection is required.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

REFERENCE TO OTHER SECTIONS

See Section 1 for emergency contact information.

See Section 8 for information on appropriate personal protective equipment.

See Section 13 for additional waste treatment information.



SECTION 7. HANDLING AND STORAGE

HANDLING:

Put on appropriate personal protective equipment (see Section 8). Take care with items that are sharp or heavy. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

STORAGE:

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

Ingredient name	Occupational exposure limits
Europe	
tin	ACGIH TLV (United States, 1/2008). TWA: 2 mg/m ³ 8 hour(s).
silver	EU OEL (Europe, 4/2006). Notes: Indicative Limit value: 0.1 mg/m ³ 8 hour(s).
Sweden	
silver	AFS 2005:17 (Sweden, 6/2007). TWA: 0.1 mg/m ³ 8 hour(s). Form: total dust
Denmark	
silver	Arbejdstilsynet (Denmark, 3/2008). Notes: calculated as Ag TWA: 0.01 mg/m ³ , (calculated as Ag) 8 hour(s). Form: powder and dust
Norway	
silver	Arbejdstilsynet (Norway, 11/2007). TWA: 0.1 mg/m ³ 8 hour(s). Form: dust and fume
France	
silver	INRS (France, 12/2007). Notes: Regulatory indicative exposure limits TWA: 0.1 mg/m ³ 8 hour(s).
Netherlands	
silver	MinSZW Wettelijke Grenswaarden (Netherlands, 4/2008). Notes: Administrative MAC-TGG, 8 uur: 0.1 mg/m ³ 8 hour(s).
Germany	
silver	TRGS900 AGW (Germany, 7/2008). PEAK: 0.8 mg/m ³ 15 minute(s). Form: inhalable fraction TWA: 0.1 mg/m ³ 8 hour(s). Form: inhalable fraction
Finland	
tin	Työterveyslaitos (Finland, 2002). TWA: 2 mg/m ³ 8 hour(s).
	Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 8/2007). Notes: calculated as Sn TWA: 2 mg/m ³ , (calculated as Sn) 8 hour(s).
silver	Työterveyslaitos (Finland, 2002). TWA: 0.1 mg/m ³ 8 hour(s).
	Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 8/2007). TWA: 0.1 mg/m ³ 8 hour(s).



United Kingdom (UK)

tin

EH40-OES (United Kingdom (UK), 2002).

TWA: 2 mg/m³ 8 hour(s). STEL: 4 mg/m³ 15 minute(s).

silver

EH40/2005 WELs (United Kingdom (UK), 8/2007).

TWA: 0.1 mg/m³ 8 hour(s).

Austria

tin

GKV_MAK (Austria, 9/2007).

STEL: 4 mg/m³, 4 times per shift, 15 minute(s). Form: inhalable fraction

TWA: 2 mg/m³ 8 hour(s). Form: inhalable fraction

silver

GKV_MAK (Austria, 9/2007).

STEL: 0.1 mg/m³, 1 times per shift, 30 minute(s). Form: inhalable fraction

TWA: 0.1 mg/m³ 8 hour(s). Form: inhalable fraction

Switzerland

silver

SUVA (Switzerland, 1/2007). Notes: not temporary

STEL: 0.8 mg/m³ 15 minute(s). Form: inhalable dust

TWA: 0.1 mg/m³ 8 hour(s). Form: inhalable dust

Belgium

tin

Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007). Absorbed through skin.

TWA: 2 mg/m³ 8 hour(s).

silver

Lijst Grenswaarden / Valeurs Limites (Belgium, 6/2007).

TWA: 0.1 mg/m³ 8 hour(s).

Spain

tin

INSHT (Spain, 1/2008).

TWA: 2 mg/m³ 8 hour(s).

silver

INSHT (Spain, 1/2008).

TWA: 0.1 mg/m³ 8 hour(s).

Turkey

tin

NIOSH REL (United States, 6/2008).

TWA: 2 mg/m³ 10 hour(s).

silver

TR ISGGM OEL (Turkey, 3/2008).

TWA: 0.1 mg/m³ 8 hour(s).

Czech Republic

silver

178/2001 (Czech Republic, 12/2007).

STEL: 0.3 mg/m³ 15 minute(s).

TWA: 0.1 mg/m³ 8 hour(s).

Ireland

silver

NAOSH (Ireland, 8/2007).

OELV-8hr: 0.1 mg/m³ 8 hour(s).

Italy

tin

ACGIH TLV (United States, 1/2008).

TWA: 2 mg/m³ 8 hour(s).

silver

Ministero della Salute (Italy, 4/2008).

TWA: 0.1 mg/m³ 8 hour(s).

Estonia

silver

Sotsiaalminister (Estonia, 10/2007).

TWA: 0.1 mg/m³ 8 hour(s).

Lithuania

silver

Del Lietuvos Higienos Normos (Lithuania, 10/2007).

TWA: 0.1 mg/m³ 8 hour(s)

Slovakia

silver

Nariadenie vlády Slovenskej republiky (Slovakia, 6/2007).

TWA: 0.1 mg/m³ 8 hour(s).

Hungary



silver	EüM-SzCsM (Hungary, 12/2007). PEAK: 0.4 mg/m ³ 15 minute(s). TWA: 0.1 mg/m ³ 8 hour(s).
Poland	
tin	Ministra Pracy i Polityki Społecznej (Poland, 9/2007). Notes: calculated as Sn TWA: 2 mg/m ³ , (calculated as Sn) 8 hour(s). Form: smokes and dusts
silver	Ministra Pracy i Polityki Społecznej (Poland, 9/2007). TWA: 0.05 mg/m ³ 8 hour(s). Form: smokes and dusts
Slovenia	
silver	EU OEL (Europe, 4/2006). Notes: Indicative Limit value: 0.1 mg/m ³ 8 hour(s).
Latvia	
silver	LV Nat. Standardisation and Meterological Centre (Latvia, 5/2007). TWA: 0.1 mg/m ³ 8 hour(s).
Greece	
tin	PD 90/1999 (Greece, 8/2007). TWA: 2 mg/m ³ 8 hour(s).
silver	PD 90/1999 (Greece, 8/2007). TWA: 0.1 mg/m ³ 8 hour(s).
Portugal	
tin	Instituto Português da Qualidade (Portugal, 3/2007). TWA: 2 mg/m ³ 8 hour(s).
silver	Instituto Português da Qualidade (Portugal, 3/2007). TWA: 0.1 mg/m ³ 8 hour(s).

RECOMMENDED MONITORING PROCEDURES:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

EXPOSURE CONTROLS:

Engineering controls:

No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Protective and hygiene:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: safety glasses with side-shields EN166 1F

Hand:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. <1 hours (breakthrough time): disposable vinyl



Body & Skin:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: overall

Other skin protection:

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory:

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: None assigned.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

COLOR

Metallic, silver

PHYSICAL STATE (20°C)

Solid material

ODOR

Odourless

pH

Not applicable

MELTING POINT

217-218 °C

DENSITY

Not determined

VAPOR PRESSURE

Not determined

SECTION 10. STABILITY & REACTIVITY

CHEMICAL STABILITY:

Expected to be stable under normal conditions of use

EXPLOSIVE PROPERTIES:

None

WATER SOLUBILITY:

Insoluble

SOLUBILITY IN OTHER SOLVENTS:

Insoluble

INCOMPATIBILITY (MATERIALS TO AVOID):

No information available

POSSIBILITY OF HAZARDOUS REACTIONS:

No hazardous reactions expected under normal conditions of use

HAZARDOUS DECOMPOSITION PRODUCTS:

Not applicable

CONDITIONS TO AVOID:

Not applicable



SECTION 11. TOXICOLOGICAL INFORMATION

TOXIC EFFECTS FOR REPRODUCTION:

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

EFFECTS AFTER REPEATED OR PROLONGED EXPOSURE:

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

SKIN IRRITATION:

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

EYE IRRITATION:

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

ACCUTE TOXICITY (LD50):

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

ACCUTE TOXICITY (LC50):

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

CARCINOGEN STATUS:

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

OVER-EXPOSURE SIGNS/SYMPTOMS

Target organs : Contains material which causes damage to the following organs: upper respiratory tract, eye, lens or cornea. Contains material which may cause damage to the following organs: mucous membranes, skin, nose/sinuses.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY:

Toxicity conclusion:

Not available.

Persistence and degradability:

Not available.

Bio accumulative potential:

Not available.

Mobility in soil:

Not available.

Results of PBT and vPvB assessment:

PBT: Not applicable

vPvB: Not applicable

Other adverse effects:

No further relevant information available.

SECTION 13. DISPOSAL CONSIDERATION

PRODUCT WASTE DISPOSAL METHOD:

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed



waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

PACKAGING WASTE DISPOSAL METHOD:

The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues.

SECTION 14. TRANSPORT INFORMATION

UN-Number:

ADR, RID, ADN, IMDG, IATA Not restricted

UN proper shipping name:

ADR, RID, ADN, IMDG, IATA Not restricted

Transport hazard class(es):

ADR, RID, ADN, IMDG, IATA Not restricted

Packing group:

ADR, RID, ADN, IMDG, IATA Not restricted

Environmental hazards:

Not applicable

Special precautions for user:

Not restricted

Transport in bulk according to Annex II of

MARPOL73/78 and the IBC Code: Not applicable

Transport/Additional information:

Not dangerous according to the above specifications.

UN "Model Regulation":

Not restricted

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized safety officer. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16. OTHER INFORMATION

The information in this safety data sheet was obtained from reputable sources and to the best of our knowledge is accurate and current at the mentioned date. Neither CAPLINQ Corporation, nor CAPLINQ Europe BV accept any liability arising out of the use of the information provided here or the use, application or processing of the product described herein.

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SDS Revision Date: 9 July 2022