

ASW01-C114-40

1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY

Product name: ASW01-C114-40
Company name: Apollo Seiko LTD.
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Application: Lead-free Resin Flux Cored Solder Wire

2 HAZARDS IDENTIFICATION

GHS classification

Physical hazards: Explosives	Not applicable
Flammable gases	Not applicable
Flammable aerosols	Not applicable
Oxidizing gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not applicable
Flammable solids	Classification not possible
Self-reactive substances and mixtures	Not applicable
Pyrophoric liquids	Not applicable
Pyrophoric solids	Classification not possible
Self-heating substances and mixtures	Classification not possible
Substances and mixtures which, in contact with water, emit flammable gases	Classification not possible
Oxidizing liquids	Not applicable
Oxidizing solids	Not applicable
Organic peroxides	Not applicable
Corrosive to metals	Classification not possible
Health hazards: Acute toxicity, oral	Not classified
Acute toxicity, dermal	Category 5
Acute toxicity inhalation: gases	Not applicable
Acute toxicity inhalation: vapor	Classification not possible
Acute toxicity inhalation: dust	Category 4
Acute toxicity inhalation: mist	Not applicable
Skin corrosion/irritation	Category 3
Serious eye damage/eye irritation	Category 2B

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	Respiratory sensitization	Category 1
	Skin sensitization	Category 1
	Germ cell mutagenicity	Classification not possible
	Carcinogenicity	Classification not possible
	Reproductive toxicity	Classification not possible
	Specific target organ/systemic toxicity single exposure	Classification not possible
	Specific target organ/systemic toxicity repeated exposure	Category 1
	Aspiration hazard	Classification not possible
Environmental hazards:	Acute hazards to the aquatic environment	Category 3
	Chronic hazards to the aquatic environment	Category 3

Pictogram or symbol:**Signal word:** Danger

Hazard statements: May be harmful in contact with skin
 Causes mild skin irritation
 May cause an allergic skin reaction
 Causes eye irritation
 Harmful if inhaled
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May cause damage to respiratory system.
 Causes damage to respiratory system organ through prolonged or repeated exposure.
 May cause damage to eyes through prolonged or repeated exposure Harmful to aquatic life with long lasting effects

Precautionary statements:

Preventive measures: Do not breathe dust/fume/gas/mist/vapours/spray.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash hands thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Avoid release to the environment.
 Wear protective gloves/protective clothing/eye protection/face protection.

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Measures:

[In case of inadequate ventilation]wear respiratory protection.
 IF ON SKIN: Wash with plenty of water and soap.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do.Continue rinsing.
 IF exposed or concerned:Call a doctor.
 Call a doctor if you feel unwell.
 Get medical advice/attention if you feel unwell.
 If skin irritation occurs: Get medical advice/attention.
 If skin irritation or rash occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a doctor.
 Take off contaminated clothing and wash it before reuse.

Storage:

Store locked up.

Elimination:

When disposing of the substance and container, contract with an industrial waste treatment firm authorized by the prefectural governor.

3 COMPOSITION / INFORMATION ON INGREDIENTS**Substance/Mixture**

Mixture

Chemical formula or generic name	Composition (%)	CAS No.	Reference number on the gazette list in Japan	PRTR designated chemical substances
Sn(Tin)	93	7440-31-5	Not available	Not applicable
Cu(Copper)	0.48	7440-50-8	Not available	Not applicable
Ag(Silver)	2.9	7440-22-4	Not available	82 (Class 1)
Rosin	3.6	8050-09-7	Not available	Not applicable

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4 FIRST-AID MEASURES

Inhalation:	Move the exposed person to fresh air and put the person in a comfortable position to easily breath and rest. Seek medical advice/attention.
Skin contact:	Wash skin immediately. Seek medical advice/attention. Remove contaminated clothing. Wash before reuse.
Eye contact:	Rinse cautiously with water for several minutes. And remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation continues, seek medical advice/attention.
Ingestion:	Seek medical advice/attention. Wash the mouth.
Expected immediate symptoms:	Prolonged exposure may cause dermatitis, due to the degreasing properties of the product.
Most important symptoms:	Medical follow-up is required.

5 FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Small fire: Special fire-extinguishing powder, Drying sand Major fire: Special fire-extinguishing powder
Specific hazards:	In the case of powder, there is a risk of dust explosion.
Specific means of extinction:	Move containers from fire area if you can do it without risk.
Protection of firefighters:	When firefighting, an adequate respiratory apparatus and chemical protective clothing are worn.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions:	Isolate appropriate spill or leak area immediately in all directions. Authorized personnel only. The worker shall wear appropriate protective equipment (refer to "8 EXPOSURE CONTROLS/PERSONAL PROTECTION.") to avoid contact with the eyes and skin or inhalation of gasses. When the worker is not wearing appropriate protective clothing, the worker must not touch the damaged container or leaked product. If a fire does not occur though the content is leaked out, wear high sealable and impermeable protective clothing. Ventilate a sealed room. Move away from low area. Stay on the windward side.
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Environmental precautions:	Be cautious not to discharge leaked product to rivers and affect the environment. Do not release the product to the environment.
Salvage/neutralization:	Sweep up the leakage and collect it in an empty container.
Methods for containment and cleaning up:	Stop leak if you can do it without risk.
Prevention of secondary hazards:	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). If the leakage remains on the floor, dispose of it to prevent slipping.

7 HANDLING AND STORAGE

Handling

- Technical measures:** Install the equipment described in "8 EXPOSURE CONTROLS/PERSONAL PROTECTION," and wear protective devices.
- Local/general ventilation:** Provide local exhaust ventilation and total ventilation described in "8 EXPOSURE CONTROLS/PERSONAL PROTECTION."
- Precautions for safe handling:** Do not handle until all safety precautions have been read and understood.
Prohibit the use of high temperature materials, sparks, and fire in the vicinity.
Do not handle the containers in a manner to upset, drop, expose to impacts, or drag. Do not breathe mist, vapors, and spray.
Wash hands thoroughly after handling. Do not get in eyes.
Do not contact, inhale, or take in the product.
Use only out of doors or with adequate ventilation.
- Avoidance of Contact:** Refer to 10 "STABILITY AND REACTIVITY."

Storage

- Technical measures:** The walls, supports, and floors of the storage building must be fireproof; the beams must be made of non-combustible materials. The storage building shall have no ceiling, the roof of the storage location should be made of non-combustible materials, and any shingles shall be made of lightweight non-combustible materials that include metal sheets or the like.
The floor of the place of storage should be constructed to avoid flooding with and permeation of water.
The floor of the storage building should be properly inclined, provided with an adequate storage pit, and so constructed as to prevent the penetration of any dangerous material.
In the storage place, such daylighting, lighting and ventilation equipment that are required to store or handle dangerous materials should be provided.

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Storage conditions: Keep away from the ignition sources such as heat/sparks/open flames.
- No smoking.

Store in a cool, well-ventilated location.

Separate from oxidizing materials.

Containers should be kept away from direct sunlight and fire.

Keep containers tightly closed in a well-ventilated place.

Store locked up.

Incompatible materials: Refer to 10 "STABILITY AND REACTIVITY."

Packaging materials: No regulations.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control concentration: No setting

Permissible concentration (exposure limit value and biological exposure indices)

Japan Society for Occupational Health: Ag: 0.01 mg/m³

ACGIH: Sn: TLV-TWA 2 mg/m³, Ag: TLV-TWA 0.1 mg/m³, Cu: TLV-TWA 1 mg/m³

Technical facility controls: Install an eye washer and a safety shower in workplaces where this substance is stored or handled. Handle in an area equipped with total ventilation systems. When there is dust, install local ventilation systems.

Personal protective equipment: Respiratory protection: Wear appropriate respiratory protection if ventilation is inadequate.

Hand protection: Wear appropriate protective gloves.

Eye protection: Wear appropriate eye protection.
Protective glasses (regular glasses type, regular glasses type with side plates, goggles type)

Skin and body protection: Wear suitable protective clothing.

Hygiene measures: Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

9 PHYSICAL AND CHEMICAL PROPERTIES

Form	Silvery-white lustrous metal
Odor	None
pH	No data
Melting point/congealing point	Solder: About 217 to 219°C, Rosin: About 70°C (Softening starting point)
Boiling point	No data
Flash point	Rosin : About 260°C
Explosive limits	No data

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Vapor pressure	No data
Vapor density	No data
Specific gravity	About 7.4
Solubility	Insoluble in water
Octanol-water-partition coefficient	No data
Auto-ignition temperature	No data
Decomposition temperature	No data
Odor threshold	No data
Evaporation rate	No data
Combustibility	No data available
Viscosity	No data available

10 STABILITY AND REACTIVITY

Stability:	Stable at the ordinary handling conditions. Oxide film occurs at 200 °C or more.
Possibility of hazardous reactions:	React with Strong oxidizing agents, acids, strong bases, halogen, sulfur, and so on.
Conditions to avoid:	Diffusion of dust
Incompatible materials:	Strong oxidizing agents, acids, strong bases, halogens, sulfur, and so on.
Hazardous decomposition products:	Not applicable

11 TOXICOLOGICAL INFORMATION

Acute toxicity:	Oral: Not classified based on rat LD ₅₀ value: 7800 mg/kg, 8400 mg/kg and 7600 mg/kg. Dermal: Classified in Category 5 based on rabbit LD ₅₀ value: about 2500 mg/kg and >2500 mg/kg by adopting the former value. May be harmful in contact with skin (dermal) Inhalation (dust): Classified in Category 4 based on rat LC ₅₀ (6 hours) value: about 1.5 mg/L (equivalent value to 4 hours: about 2.3 mg/L) 1). Harmful if inhaled (dust)
Skin corrosion/irritation:	Classified in Category 3 based on the description of mild irritant in the skin irritation test in rats. Causes mild skin irritation
Serious eye damage:	Classified in Category 2B based on the description of mild irritant in the eye irritation test in rats. Causes eye irritation
Respiratory sensitization:	Classified in Category 1 because the substance contained is listed in sensitizing chemical substance by the Japanese

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Skin sensitization:	Society of Occupational and Environmental Allergy. Furthermore, classified as occupational sensitizers to airway Groups 1 by the Japan Society for Occupational Health. Classified in Category 1 because rosin is classified as a skin sensitizer by the Japanese Society for Dermatoallergology and Contact Dermatitis, and the substance is classified as SEN by ACGIH, as a skin sensitizer Group 1 by the Japan Society For Occupational Health, and as Sh by the DFG and allergic contact dermatitis cases have been reported. No data
Germ cell mutagenicity:	
Carcinogenicity:	There is no determinable information
Reproductive toxicity:	No information
Specific target organ/systemic toxicity (single exposure):	There is no determinable information
Specific target organ/systemic toxicity (repeated exposure):	Pneumoconiosis were observed in workers dealing with metal tin. By long-term exposure in this substance, the lungs can cause a benign pneumoconiosis. Damage to organs through prolonged or repeated exposure. (Category 1)
Aspiration hazard:	Classification not possible

12 ECOLOGICAL INFORMATION

Acute hazards to the aquatic environment:	As rosin alone, the value is 48 hour EC ₅₀ = 4.5 mg/L for Crustacea (<i>Daphnia magna</i>), so the classification is set in Category 2. Classified in Category 3 as products overall based on the content.
Chronic hazards to the aquatic environment:	As rosin alone, acute toxicity is classified in Category 2, no rapid degradability (BOD: 36% to 48%), and bioaccumulation potential is described as "not known," so the classification is set in Category 2. Classified in Category 3 as products overall based on the content.

13 DISPOSAL CONSIDERATIONS

Residues:	Dispose of according to the applicable laws and regulations and local requirements.
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Dispose of by entrusting disposal to a contractor if there is a waste disposal contractor approved by the prefectural governor or a municipal corporation that undertakes disposal.

To contract out disposal of waste, thoroughly inform the waste disposal operator of risks and hazards.

Contaminated container and package:

Clean up containers for recycling or dispose of them according to the applicable laws and regulations and local requirements.

Before disposing of empty containers, the contents are discharged completely.

14 TRANSPORT INFORMATION

International regulations:	Marine regulatory information	Not applicable
	UN number	Not applicable
	Product name	Not applicable
	UN classification	Not applicable
	Packing group	Not applicable
	Aviation regulatory information	Not applicable
	UN number	Not applicable
	Product name	Not applicable
	UN classification	Not applicable
	Division	Not applicable
Domestic regulations:	Rail and road regulatory information	Not applicable
	Marine regulatory information	Not applicable
	UN number	Not applicable
	Product name	Not applicable
	UN classification	Not applicable
	Packing group	Not applicable
	Aviation regulatory information	Not applicable
	UN number	Not applicable
	Product name	Not applicable
	UN classification	Not applicable
Division	Not applicable	
Special safety measures:	<p>In shipment, avoid direct sunlight, load carefully to prevent turnover, falling or damage and take measures for preventing the collapse of cargo.</p> <p>Do not transport with food and feed.</p> <p>Do not pile heavy load on top of product containers.</p>	

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15 REGULATORY INFORMATION

Industrial Safety and Health Law Ordinance on the Prevention of Hazards due to Specified Chemical Substances	Not applicable
Industrial Safety and Health Law Ordinance on Prevention of Organic Solvents Poisoning	Not applicable
Industrial Safety and Health Law Ordinance on Prevention of Lead Poisoning	Not applicable
Industrial Safety and Health Law Substances as indicated in Article 57	Not applicable
Industrial Safety and Health Law Substances as reported in Article 57	Ordinance No.: 322 (Tin and its compounds), 137 (Silver), 379(Copper), 632 (Rosin)
Act on the Promotion of Control of Discharge of Chemical Substances PRTR Law	Silver(Class 1: No. 82)
Wastes Disposal and Public Cleansing Act	Order for enforcement Article 2 Metal chips
Air Pollution Control Act	Not applicable
Water Pollution Control Law	Not applicable
Soil Contamination Countermeasures Act	Not applicable
Poisonous and Deleterious Substances Control Law	Not applicable
Fire Service Act	Not applicable
Ship Safety Act	Not applicable
Civil Aeronautics Act	Not applicable
Sea Water Protection Law	Not applicable

16 OTHER INFORMATION

The information contained in this SDS is based on the latest documents, information, and data available and may be revised when new findings are obtained.

In addition, the precautions in this SDS relate to normal handling conditions. Additional safety measures for applications and uses should be drawn up and implemented in special handling situations. This is just providing information and does not engage for quality of the product.