Safety Data Sheet

according to Regulation (EC) No 1907/2006

Leaded Solder Wire Alloy based on Tin-Lead or Lead-Tin with Resin based Flux

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

1.1. Product identifier

Leaded Solder Wire Alloy based on Tin-Lead or Lead-Tin with Resin based Flux

Further trade names

possible alloys: Sn60Pb40; Sn63Pb37; Sn64Pb36; Sn60Pb38Cu2; Sn60Pb38Ag2; Sn60Pb36Ag4; Sn62Pb36Ag2; Pb60Sn40; Pb90Sn10; Pb62Sn27Ag3; Pb93Sn5Ag2; Pb95,5Sn3Ag1,5

2220; 3135; B2012; 26Q; 32Q; B211; Cobar 393

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

Use of the substance/mixture

Solder wire

Uses advised against

any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	DKL Metals Ltd	
Street:	Bo'ness Road	
Place:	Grangemouth, FK3 9XF	
Telephone:	+44 (0) 1506 847710	Telefax: +44 (0) 1506 848199
Responsible Department:	sales@dklmetals.co.uk	

1.4. Emergency telephone number:

+44 (0) 1506 847710

09.00 - 17.00 Mon - Thurs, 09.00 - 16.00 Fr

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC

Indications of danger: T - Toxic, Xn - Harmful, N - Dangerous for the environment
R phrases:
May cause harm to the unborn child.
Possible risk of impaired fertility.
Harmful by inhalation and if swallowed.
Danger of cumulative effects.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard categories:
Acute toxicity: Acute Tox. 4
Acute toxicity: Acute Tox. 4
Reproductive toxicity: Repr. 1A
Specific target organ toxicity - repeated exposure: STOT RE 2
Hazardous to the aquatic environment: Aquatic Acute 1
Hazardous to the aquatic environment: Aquatic Chronic 1

2.2. Label elements

Additional advice on labelling

For this product, a hazard label is not required according to section 1.3.4 of the CLP regulation.

2.3. Other hazards

No risks worthy of mention. Please observe the information on the safety data sheet at all times.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Solder wire

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
REACH No		
231-100-4	lead	30 - 95 %
7439-92-1	Repr. Cat. 1, Repr. Cat. 3, Xn - Harmful, N - Dangerous for the environment R61-62-20/22-33-50-53	
082-001-00-6	Repr. 1A, Acute Tox. 4, Acute Tox. 4, STOT RE 2, Aquatic Acute 1 (M-Factor = 1), Aquatic Chronic 1 (M-Factor = 1); H360Df H302 H332 H373 H400 H410	
231-141-8	tin	2 - 65 %
7440-31-5		
01-2119486474-28		
231-131-3	silver	0,2 - 5 %
7440-22-4		
01-2119555669-21		
231-159-6	copper	0 - 5 %
7440-50-8		
266-041-3	Rosin, hydrogenated	1 - < 5 %
65997-06-0		

Full text of R-, H- and EUH-phrases: see section 16.

Further Information

Product does not contain listed SVHC substances.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or illness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

No special measures are necessary.

The melted product can cause severe burns. After contact with molten product, cool skin area rapidly with cold water. Burns caused by molten material must be treated clinically.

After contact with eyes

No special measures are necessary.

After ingestion

No special measures are necessary.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Sand
Extinguishing powder
D -powder

Unsuitable extinguishing media

Extinguishing media which must not be used for safety reasons:
Water
Full water jet
Water spray jet

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Gas/vapours, irritant. Carbon monoxide. Carbon dioxide (CO_2).
Nitrogen oxides (NOx). Metal oxide smoke, toxic

5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See protective measures under point 7 and 8.

6.2. Environmental precautions

No special measures are necessary.

6.3. Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal.
Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation as well as local exhaustion at critical locations.
Do not breathe smoke. Do not breathe dust.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Further information on handling

General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

No special measures are necessary.

Advice on storage compatibility

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances.

7.3. Specific end use(s)

refer to chapter 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
7440-50-8	Copper, dusts and mists (as Cu)	-	1		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL
7440-50-8	Copper, fume	-	0.2		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
-	Lead other than lead alkyls	-	0.15		TWA (8 h)	CLAW
		-	-		STEL (15 min)	CLAW
7440-22-4	Silver, metallic	-	0.1		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
7440-31-5	tin			
Worker DNEL, long-term		inhalation	systemic	11,75 mg/m³
Worker DNEL, acute		inhalation	systemic	11,75 mg/m³
Worker DNEL, long-term		dermal	systemic	133,3 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	133,3 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	3,476 mg/m³
Consumer DNEL, acute		inhalation	systemic	3,476 mg/m³
Consumer DNEL, long-term		dermal	systemic	80 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	80 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	80 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	80 mg/kg bw/day
7440-22-4	silver			
Worker DNEL, long-term		inhalation	systemic	0,1 mg/m³
Consumer DNEL, long-term		inhalation	systemic	0,04 mg/m³
Consumer DNEL, long-term		oral	systemic	1,2 mg/kg bw/day
7440-50-8	copper			
Worker DNEL, acute		inhalation	systemic	20 mg/m³
Worker DNEL, long-term		inhalation	local	1 mg/m³
Worker DNEL, long-term		dermal	systemic	137 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	273 mg/kg bw/day
Consumer DNEL, acute		inhalation	systemic	20 mg/m³
Consumer DNEL, long-term		inhalation	local	1 mg/m³
Consumer DNEL, long-term		dermal	systemic	137 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	273 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
7440-22-4	silver	
Freshwater		0,00004 mg/l
Marine water		0,00086 mg/l
Micro organisms in sewage treatment plants (STP)		0,025 mg/l
Freshwater sediment		438,13 mg/kg
Marine sediment		438,13 mg/kg
Soil		1,41 mg/kg
7440-50-8	copper	
Freshwater		0,0078 mg/l
Marine water		0,0052 mg/l
Micro organisms in sewage treatment plants (STP)		0,23 mg/l
Freshwater sediment		87 mg/kg
Marine sediment		678 mg/kg
Soil		65 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and after work.
When using do not eat, drink, smoke, sniff. Use protective skin cream before handling the product.

Eye/face protection

Wear eye/face protection.

Hand protection

Wear suitable gloves.
for coarse soldering works: heat insulating.

Skin protection

Protective clothing (heat-resistant)

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
insufficient ventilation.
exceeding exposure limit values
Suitable respiratory protective equipment: Particle filter device (DIN EN 143) Type: P2/3
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!

Environmental exposure controls

No special environmental measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	metallic, silver
Odour:	odourless

	Test method
pH-Value:	not applicable
Changes in the physical state	
Melting point:	not determined
Initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Flash point:	not determined
Flammability	
Solid:	not determined
Explosive properties	
none	
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined
Auto-ignition temperature	
Solid:	not determined
Decomposition temperature:	not determined
Oxidizing properties	
none	
Vapour pressure:	not determined
Density:	not determined
Bulk density:	not determined
Water solubility:	insoluble
Solubility in other solvents	
insoluble	
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined

9.2. Other information

Solid content:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal storage and handling conditions.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

No information available.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

Can be released in case of fire: Metal oxide smoke, toxic

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicocinetics, metabolism and distribution

No information available.

Acute toxicity

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

ATEmix calculated

ATE (oral) 526,3 mg/kg; ATE (inhalative vapour) 11,58 mg/l; ATE (inhalative aerosol) 1,579 mg/l

Acute toxicity

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
7439-92-1	lead				
	oral	ATE	500 mg/kg		
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1,5 mg/l		
7440-31-5	tin				
	oral	LD50	>2000 mg/kg	Rat	ECHA Dossier
	dermal	LD50	>2000 mg/kg	Rat	ECHA Dossier
	inhalative (4 h) aerosol	LC50	(>4,75) mg/l	Rat	ECHA Dossier
7440-22-4	silver				
	oral	LD50	>2000 mg/kg	Rat	ECHA Dossier
	dermal	LD50	>2000 mg/kg	Rat	ECHA Dossier
	inhalative (4 h) aerosol	LC50	>5,16 mg/l	Rat	ECHA Dossier
7440-50-8	copper				
	inhalative (4 h) aerosol	LC50	>5,11 mg/l	Rat	ECHA Dossier

Irritation and corrosivity

Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Not an irritant.
Serious eye damage/eye irritation: Not an irritant.

Sensitising effects

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

STOT-single exposure

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

Severe effects after repeated or prolonged exposure

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

Aspiration hazard

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

Specific effects in experiment on an animal

No data available

SECTION 12: Ecological information

12.1. Toxicity

No data available

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.
Control report for waste code/ waste marking according to EAKV:

Waste disposal number of waste from residues/unused products

160304 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes other than those mentioned in 16 03 03

Waste disposal number of used product

160304 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes other than those mentioned in 16 03 03

Waste disposal number of contaminated packaging

150106 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); mixed packaging

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	Not restricted
14.2. UN proper shipping name:	Not restricted
14.3. Transport hazard class(es):	Not restricted
14.4. Packing group:	Not restricted

Inland waterways transport (ADN)

14.1. UN number:	Not restricted
14.2. UN proper shipping name:	Not restricted
14.3. Transport hazard class(es):	Not restricted
14.4. Packing group:	Not restricted

Marine transport (IMDG)

14.1. UN number:	Not restricted
14.2. UN proper shipping name:	Not restricted
14.3. Transport hazard class(es):	Not restricted
14.4. Packing group:	Not restricted

Air transport (ICAO)

14.1. UN number:	Not restricted
14.2. UN proper shipping name:	Not restricted
14.3. Transport hazard class(es):	Not restricted
14.4. Packing group:	Not restricted

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Not restricted

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not restricted

SECTION 15: Regulatory information

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

EU regulatory information

Additional information

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].
Not subject to 96/82/EC
REACH 1907/2006 Appendix XVII, No: not relevant

National regulatory information

Employment restrictions:	Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing. Observe employment restrictions for women of child-bearing age.
Water contaminating class (D):	1 - slightly water contaminating

Additional information

Observe technical data sheet.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Rev. 1.00; 22.05.2015, Initial release

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
CAS Chemical Abstracts Service

DNEL: Derived No Effect Level
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect level
NTP: National Toxicology Program
N/A: not applicable
OSHA: Concerning the International Transport of Dangerous Goods by Rail)
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail+)
SARA: Superfund Amendments and Reauthorization Act
SVHC: substance of very high concern
TRGS Technische Regeln für Gefahrstoffe
TSCA: Toxic Substances Control Act
VOC: Volatile Organic Compounds
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe
WGK: Wassergefährdungsklasse

Relevant R-phrases (Number and full text)

20/22	Harmful by inhalation and if swallowed.
33	Danger of cumulative effects.
50	Very toxic to aquatic organisms.
53	May cause long-term adverse effects in the aquatic environment
61	May cause harm to the unborn child.
62	Possible risk of impaired fertility.

Relevant H- and EUH-phrases (Number and full text)

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)