LM95 Low Melt Moulding Alloy Safety Data

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Date of issue: 13/03/23 Version: 1.2

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

1.1 Product identifier

Product form : Ingot
Product name : LM95 Low Melt Moulding Alloy
Type of product : Alloy

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

1.2.1 Relevant identified uses

Main use category : Industrial use
Industrial/Professional use spec : Industrial use
Use of the substance/mixture : Soldering
Function or use category : Welding and soldering products, flux products

1.2.2 Uses advised against

No additional information available

1.3 Details of the supplier of the safety data sheet

Easy Composites Ltd
Unit 39, Park Hall Business Village, Stoke on Trent,
Staffordshire,
ST3 5XA.
United Kingdom.

Tel: +44 (0)1782 454499 -

sales@easycomposites.com

1.4 Emergency telephone number

Emergency number : +44 (0)1782 454499 (working hours only)

Section 2: Hazards identification

2.1 Classification of the substance or mixture

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

H360FD Repr. 1
H362 Lact.
H372 STOT RE 1

Adverse physicochemical, human health and environmental effects

See section 11 for information on the health hazards.

2.2 Label elements

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

Signal word : Danger
Hazard statement : 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
Precautionary statement, prevention : P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
: P263 Avoid contact during pregnancy/while nursing.
: P264 Wash thoroughly after handling.
: P270 Do not eat, drink or smoke when using this product
: P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement, response : P314 Get medical advice/attention if you feel unwell

2.3 Other Hazards

Other hazards not contributing to the classification

As supplied this product is not hazardous, however this product may become hazardous in use and the information in this data sheet reflects the hazards associated with melting, brazing and other metallurgical operations. In brazing metals give rise to thermally produced particulates of smaller dimension than may be produced if the metals are divided mechanically. Where insufficient ventilation or respiratory protection is available these particulates may produce “metal fume fever” in workers from an acute or long-term exposure.

Section 3: Composition/information on ingredients

3.1 Substance

Not applicable

3.2 Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
LEAD	(CAS No) 7439-92-1 (EC No) 231-100-4	30-40	H360FD Repr. 1 H362 Lact H372 STOT RE 1
BISMUTH	(CAS No) 7440-69-9 (EC no) 231-177-4	50-60	Not classified
Tin	(CAS No) 7440-31-5 (EC no) 231-141-8	10-20	Not classified

Full text of H-statements: see section 16

Section 4: First aid measures

4.1 Description of first aid measures

First-aid measures general : Prolonged exposure to lead may cause acute lead poisoning. Exposure routes include ingestion, inhalation and contact with unprotected skin. Poisoning may result from exposure to dust and fume or contact with lead in massive form. Get medical advice/attention if you feel unwell.

First-aid measures after inhalation : Move the exposed person to fresh air. Seek medical attention and show this data sheet.

First-aid measures after skin contact : Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Not expected to present a significant eye contact hazard under anticipated conditions of normal use. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.

First-aid measures after ingestion : Rinse mouth and give plenty of water. Seek medical attention and show this data sheet.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Lead can cause weakness, insomnia, headache and possible paralysis. Chronic over exposure to lead may result in damage to the blood forming, nervous urinary and reproductive systems. Lead is classified as a 2B carcinogen by the IARC, evidence for carcinogenicity is adequate in animals but inadequate for humans. Severe lead toxicity has long been known to cause sterility, abortion and neonatal mortality and morbidity.

Symptoms/injuries after inhalation : Inhalation of fumes may cause metal fume fever. ACUTE “Metal Fume Fever” Symptoms include: irritation of eyes, nose, throat, and skin; flu-like symptoms – sudden or delayed onset of chills, weakness, fatigue, nausea, vomiting, headache, diarrhea, muscular pains; tightness of chest; paralysis; loss of consciousness or death.

Symptoms/injuries after skin contact : Repeated or prolonged contact may cause acute lead poisoning.

Symptoms/injuries after eye contact : Dust from this product may cause eye irritation.

Symptoms/injuries after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use. There may be irritation to the throat.

4.3 Indication of any immediate medical attention and special treatment needed

Symptoms of lead poisoning may occur after several hours; seek medical attention.

Section 5: Firefighting measures

Suitable extinguishing media : Dry powder. Use extinguishing media appropriate for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Fire hazard	: The product is not flammable.
Explosion hazard	: Product is not explosive.
Reactivity in case of fire	: Not known.
Hazardous decomposition products in case of fire	: Toxic fumes may be released – lead fumes lead oxide

5.3 Advice for firefighters

Precautionary measures fire	: No special measures required.
Firefighting instructions	: Use extinguishing media appropriate for surrounding fire.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

General measures : Avoid release to the environment.

6.1.1. For non-emergency personnel

Protective equipment	: Wear suitable protective clothing, gloves and eye or face protection.
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe dust, fume.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Wear suitable protective clothing, gloves and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection". Avoid contact with skin and eyes. Do not breathe Dust, fume.
Emergency procedures	: Ventilate area.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

For containment	: Collect spillage.
Methods for cleaning up	: Pick up solid material and collect dusts in suitable sealed containers. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).
Other information	: Dispose of in accordance with relevant local regulations.

6.4 Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

Section 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Avoid creating or spreading dust. Do not breathe dust, fume.
Hygiene measures	: Always wash hands after handling the product. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas and remove contaminated clothing before eating, drinking or smoking and when leaving work.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures	: Ensure adequate ventilation, especially in confined areas.
Storage conditions	: Store in a well-ventilated place.

Incompatible products	:	Corrosive substances.
Incompatible materials	:	Acetylene; ammonia; nitric acid; ethylene imine; sulfuric acid; chlorine trifluoride; peroxides; permonosulfuric acid; peroxyformic acid; oxalic acid; tartaric acid; bromoazide; halogens; bromine trifluoride; cupric nitrate; sulfur.
Storage area	:	Store in a well-ventilated place.
Packaging materials	:	Keep only in original container.

7.3 Specific end use(s)

Welding and soldering products, flux products.

Section 8: Exposure controls/personal protection

8.1 Control parameters

8.1.1 Human toxicity values

OELs - Lead and inorganic compounds (as Pb):

	Limit values – 8 hours mg/m³	Limit values – short term mg/m³
European Union	0.15 inhalable aerosol	
Austria	0.1 inhalable aerosol	0.4 inhalable aerosol
Belgium	0.15	
Denmark	0.05 inhalable aerosol	0.10 inhalable aerosol
Finland	0.1	
France	0.1 inhalable aerosol	
Germany (AGS)	0.1 inhalable aerosol	
Hungary	0.15 inhalable aerosol 0.05 respirable aerosol	0.60 inhalable aerosol 0.2 respirable aerosol
Ireland	0.15	
Italy	0.15 inhalable aerosol	
Latvia	0.005	0.01 (15-min average)
Poland	0.05	
Spain	0.15 inhalable aerosol	
Sweden	0.1 inhalable aerosol 0.15 respirable aerosol	
Switzerland	0.1 inhalable aerosol	0.8 inhalable aerosol
United Kingdom	0.15	

Biological action levels, inorganic lead

European Union	70 µg/dL (Binding Limit Value)
Germany	40 µg/dL 10 µg/dL (for woman, age below 45 years) [Suspended]
France	40 µg/dL 30 µg/dL µg/dL (for woman of reproductive capacity)
Ireland	70 µg/dL
Spain	70 µg/dL
UK	60 µg/dL 30 µg/dL (for woman of reproductive capacity)

DN(M)ELs for workers:

Exposure pattern	Route	Descriptors	DNEL/DMEL (appropriate unit)	Most sensitive endpoint
Acute - systemic effects	Dermal (mg/kg bw /day)	NA	NA	NA
	Inhalation (mg/m³)	NA	NA	NA
Acute - local effects	Dermal (mg/cm²)	NA	NA	NA
	Inhalation (mg/m³)	NA	NA	NA
Long-term - systemic effects	Systemic (µg lead /dL blood)	NOAEL = 40 µg/dL NOAEL = 10 µg/dL	40 µg/dL 10 µg/dL	Adult neurological function Developmental effect on foetus of pregnant women
Long-term – local effects	Dermal (mg/cm²)	NA	NA	NA
	Inhalation (mg/m³)	NA	NA	NA

8.1.2 Ecological toxicity values

Reliable acute aquatic toxicity test results (tests conducted with soluble lead salts)

Test organism	Species	Endpoint	Value
Algae	*Pseudokirchneriella subcapitata*	72h EC50 (pH>6.5-7.5) 72h EC50 (pH<7.5-8.5)	52.0 µg Pb/L 233.1 µg Pb/L
Invertebrates	*Daphnia magna* *Ceriodaphnia dubia*	48h EC50 (pH>7.5-8.5) 48h EC50 (pH>5.5-8.5)	107.5 µg Pb/L 73.6 µg Pb/L
Fish	*Oncorhynchus mykiss* *Pimephales promelas*	96h LC50 (pH>6.5-8.5) 96h LC50 (pH>5.5-8.5)	107.0 µg Pb/L 194.2 µg Pb/L

Listed values are for tests performed at most sensitive pH. Other organisms have also been evaluated in the chemical safety report. References are listed in Section 16.

Reliable chronic toxicity test results (tests conducted with soluble lead salts)

Compartment	Species	Value (EC_{10}, NOEC)
Freshwater	*Hyalella azteca* (42d, mortality)	8.2 µg Pb/L (dissolved lead)
Marine water	*Mytilus trossolus* (48h, developmental abnormalities)	9.2 µg Pb/L (dissolved lead)
Freshwater sediment	*Tubifex tubifex* (28d, reproduction)	573 mg Pb/kg dw
Marine sediment	*Neanthes arenaneodentata (28d, growth)*	680 mg Pb/kg dw
Terrestrial (plants)	*Hordeum vulgare* (yield based on root)	57 mg Pb/kg dw
STP Micro-organisms (Protozoa)	Protozoan community (24h-LC10)	1.0 mg Pb/L

Listed reports are for most sensitive organisms. References are listed in Section 16.

The following Predicted No Effect Concentrations have been derived for the above environmental compartments:

Compartment	PNEC Value
Freshwater	3.1 µg Pb/L (dissolved lead)
Marine water	3.5 µg Pb/L (dissolved lead)
Freshwater sediment (with/without bioavailability correction)	41.0/174.0 mg Pb/kg dw
Marine water sediment	164.2 mg Pb/kg dw
Terrestrial	212.0 mg Pb/kg dw
STP Micro-organisms	0.1 mg Pb/L

8.2 Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Organisational Controls:

Ensure workers follow simple hygiene rules and have access to washing and changing facilities. Ensure workers have access to contamination-free rest areas that are suitable for storage and consumption of food.

Blood lead monitoring may be required in conjunction with a suitable Health & Safety risk assessment which contributes to an organisation's responsibility towards compliance with 'The Control of Lead at Work Regulations 2002'.

Personal protective equipment:

Gloves. Safety glasses.

Materials for protective clothing:

Wear suitable protective clothing

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

During brazing operations, the most significant route of overexposure is via inhalation of fumes, in case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls:

Avoid release to the environment.

Other information:

During brazing operations, the most significant route of overexposure is via inhalation of fumes.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Silver-gray alloy. Metallic wire, rod, strip.
Colour	:	Silver.
Odour	:	odourless.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	Not applicable
Solubility	:	insoluble in water.
Log Pow	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	No data available
Explosive properties	:	Product is not explosive.
Oxidising properties	:	Oxidising solids Not applicable.
Explosive limits	:	Not applicable

9.2 Other information

No additional information available

Section 10: Stability and reactivity

10.1 Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4 Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5 Incompatible materials

Strong oxidizing agents: Acetylene; ammonia; nitric acid; ethylene imine; sulfuric acid; chlorine trifluoride; peroxides; permonosulfuric acid; peroxyformic acid; oxalic acid; tartaric acid; bromoazide; halogens; bromine trifluoride; cupric nitrate; sulfur.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity	:	Lead is slowly absorbed by ingestion and inhalation and poorly absorbed through the skin. If absorbed it will accumulate in the body with low rates of excretion, leading to long-term build up. ACUTE “Metal Fume Fever” Symptoms include: irritation of eyes, nose, throat, and skin; flu-like symptoms – sudden or delayed onset of chills, weakness, fatigue, nausea, vomiting, headache, diarrhea, muscular pains; tightness of chest; paralysis; loss of consciousness or death (Alloys in their solid state do not produce inhalation, skin or ingestion hazards. However, heating welding, cutting, brazing, grinding and machining may cause dust or fumes to be released which could be harmful if inhaled.)
Skin corrosion/irritation	:	Not classified
Additional information	:	Contact dermatitis may result from direct exposure to the skin.
Serious eye damage/irritation	:	Not classified
Additional information	:	Dust from this product may cause eye irritation.
Respiratory or skin sensitisation	:	Not classified (Alloys in their solid state do not produce inhalation, skin or ingestion hazards. However, heating welding, cutting, brazing, grinding and machining may cause dust or fumes to be released which could be harmful if inhaled.)
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	There is some evidence that inorganic lead compounds may have a carcinogenic effect, and they have been classified by IARC as probably carcinogenic to humans (Group 2A).
Reproductive toxicity	:	Exposure to high levels of lead and inorganic lead compounds may cause adverse effects to male and female fertility. Prenatal exposure to inorganic lead compounds is also associated with adverse effects on the development of the unborn child.
Specific target organ toxicity (single exposure)	:	Inorganic lead compounds have generally been found to be of relatively low acute toxicity by ingestion, in contact with skin, and by inhalation, with no evidence of any local or systemic toxicity from such exposures. The bioavailability of lead metal is low and acute lead exposure is not expected to result in acute toxicity effects.
Specific target organ toxicity (repeated exposure)	:	Lead is a cumulative poison and may be absorbed into the body through ingestion or inhalation; its toxicity is generally considered to be mediated through the lead cation. Although inhalation and ingestion of lead in massive form are unlikely, poor hygiene practices may result in hand to mouth transfer which may be significant over a prolonged period of time. Lead metal may also be used in such a way that inhalable particles may form, resulting in systemic uptake. Inorganic lead compounds have been documented in observational human studies to produce toxicity in multiple organ systems and body function including the haemotopoetic (blood) system, kidney function, reproductive function and the central nervous system. There is evidence that postnatal exposure to lead is associated with effects on neurobehavioral development in children.

Aspiration hazard : Not classified (Alloys in their solid state do not produce inhalation, skin or ingestion hazards.

However, heating welding, cutting, brazing, grinding and machining may cause dust or fumes to be released which could be harmful if inhaled.)

Section 12: Ecological information

12.1 Toxicity

Ecology - general : In massive form this product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

12.2 Persistance and degradability

LOWMELT 96 Alloy	
Persistence and degradability	The product is not biodegradable.

12.3 Bioaccumulative potentail

LOWMELT 96 Alloy	
Bioaccumulative potential	Low bioaccumulative potential

12.4 Mobility in soil

LOWMELT 96 Alloy	
Ecology - soil	Not established.

12.5 Results of PBT and vPvB

No additional information available

12.6 Other adverse effects

Other adverse effects : None known.
Additional information : Avoid release to the environment

Section 13: Disposal Considerations

13.1 waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions. Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Section 14: Transport information

In accordance with ADR / RID / IMDG / IATA / AND

14.1 UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2 UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3 Transport hazards class(es)

ADR
Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4 Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5 Environmental hazard

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6 Special precautions for user

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

Section 15: Regulatory information

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

15.1.1. EU-Regulations

Metallic lead is included on the REACH Candidate List of Substances of Very High Concern for Authorisation (Toxic to Reproduction, Category 1A; Article 57c).

15.1.2. National regulations

The Control of Lead at Work 2002 regulation
Restriction of Hazardous Substances regulation
Hazardous Waste Regulations 2005

15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this product.

Section 16: Other information

Data sources : The European Chemicals Agency (ECHA).

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product