

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Tin-Lead Alloys, potential with additional of other alloying elements

Revision date: 17/02/2023

Product code: 950102

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Tin-Lead Alloys, potential with additional of other alloying elements

Further trade names

This MSDS covers the following products:

Sn63Pb37
Sn60Pb40
Sn50Pb50
Sn60Pb38Bi2
Sn60Pb39Cu1
Sn62Pb36Ag2

Pb 30-50%; Sn >40%; Ag 0-5%; Cu 0-5%; Bi 0-5%

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

soft solder

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name: BALVER ZINN
Josef Jost GmbH & Co. KG
Street: Blintroper Weg 11
Place: D-58802 Balve
Telephone: +49 2375 915 - 0 Telefax: +49 2375 915 - 1700
e-mail: cia@balverzinn.com
e-mail (Contact person): SDS@balverzinn.com
Internet: www.balverzinn.com
Responsible Department: Product Safety Department +49 2375 915-199
Only available during office hours.

1.4. Emergency telephone number:

+49 700 24 112 122 (Contract-ID: BZW)
from USA / Canada please call 011 49 700 24 112 112

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Repr. 1A; H360FD
Lact.; H362
STOT RE 1; H372

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Hazard components for labelling**lead massive [particle diameter \geq 1 mm]**Signal word:** Danger**Pictograms:**

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Hazard statements

- 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 statements

- P201 Obtain special instructions before use.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P263 Avoid contact during pregnancy and while nursing.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P501 Dispose of contents/container to local/regional/national/international regulations.

Special labelling of certain mixtures

Restricted to professional users.

Additional advice on labelling

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

2.3. Other hazards

For information or further instructions, see also section 11 or 12.
 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****Hazardous components**

CAS No	Chemical name	Quantity
	EC No	Index No
	REACH No	
	Classification (Regulation (EC) No 1272/2008)	
7440-31-5	tin	> 40 %
	231-141-8	01-2119486474-28
7439-92-1	lead massive [particle diameter \geq 1 mm]	30 - 50 %
	231-100-4	082-014-00-7
	01-2119513221-59	
	Repr. 1A, Lact., STOT RE 1; H360FD H362 H372	
7440-50-8	Copper, massive	0 - 5 %
	231-159-6	01-2119480154-42
7440-69-9	bismuth	0 - 5 %
	231-177-4	01-2119560575-33
7440-22-4	silver	0 - 5 %
	231-131-3	01-2119555669-21

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
7440-31-5	231-141-8	tin	> 40 %
	inhalation: LC50 = (>4,75) mg/l (dusts or mists); dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg		
7439-92-1	231-100-4	lead massive [particle diameter \geq 1 mm]	30 - 50 %
	inhalation: LC50 = > 5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		

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Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7440-50-8	231-159-6	Copper, massive	0 - 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2500 mg/kg	
7440-69-9	231-177-4	bismuth	0 - 5 %
		oral: LD50 = 2000 mg/kg	
7440-22-4	231-131-3	silver	0 - 5 %
		inhalation: LC50 = >5,16 mg/l (dusts or mists); dermal: LD50 = >2000 mg/kg; oral: LD50 = >2000 mg/kg	

Further Information

Contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: lead massive [particle diameter \geq 1 mm] CAS n°: 7439-92-1

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. Medical treatment necessary. 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

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary. 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

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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**

Co-ordinate fire-fighting measures to the fire surroundings. In case of metal fire: Sand, Extinguishing powder, D-powder

Unsuitable extinguishing media

Extinguishing media which must not be used for safety reasons:
Water, High power water jet., Water spray jet

5.2. Special hazards arising from the substance or mixture

Non-flammable. Can be released in case of fire: Metal oxide smoke, toxic, Lead oxide

5.3. Advice for firefighters

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In case of fire and/or explosion do not breathe fumes.
In case of fire: Wear self-contained breathing apparatus.

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

General advice

Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

6.2. Environmental precautions

Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary.

6.3. Methods and material for containment and cleaning up

For containment

Take up mechanically.
Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

Other information

Take up mechanically, placing in appropriate containers for disposal.

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

If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid dust formation.
Do not inhale dust/fumes.
Wear suitable protective clothing. (See section 8.)

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and after work. Do not eat, drink, smoke or sneeze at the workplace.

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.

Hints on joint storage

Do not store together with: Explosives, Radioactive substances, Infectious substances.

Further information on storage conditions

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Keep the packing dry and well sealed to prevent contamination and absorption of humidity.
 Recommended storage temperature: 20°C
 Protect against: Frost, UV-radiation/sunlight, Heat, moisture.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

CAS No	Substance	ppm	mg/m ³	fib/cm ³	Category	Origin
7440-50-8	Copper, fume	-	0.2		TWA (8 h)	
7439-92-1	Lead	-	0.15		TWA (8 h)	
7440-22-4	Silver (metallic)	-	0.1		TWA (8 h)	
7440-31-5	Tin (Metal)	-	2		TWA (8 h)	

Biological limit values

CAS No	Substance	Parameter	Value	Test material	Sampling time
7439-92-1	Lead	Lead	70 µg/100 ml	Blood	Not critical

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7440-31-5	tin			
	Consumer DNEL, long-term	inhalation	systemic	3,476 mg/m ³
	Consumer DNEL, acute	inhalation	systemic	3,476 mg/m ³
	Worker DNEL, long-term	inhalation	systemic	11,75 mg/m ³
	Worker DNEL, acute	inhalation	systemic	11,75 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	80 mg/kg bw/day
	Worker DNEL, acute	dermal	systemic	133,3 mg/kg bw/day
	Consumer DNEL, acute	dermal	systemic	80 mg/kg bw/day
	Worker DNEL, long-term	dermal	systemic	133,3 mg/kg bw/day
	Consumer DNEL, acute	oral	systemic	80 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	80 mg/kg bw/day
7440-50-8	Copper, massive			
	Worker DNEL, long-term	dermal	systemic	137 mg/kg bw/day
	Worker DNEL, acute	dermal	systemic	273 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	local	1 mg/m ³
	Consumer DNEL, acute	inhalation	local	1 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	137 mg/kg bw/day
	Consumer DNEL, acute	dermal	systemic	273 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	0,041 mg/kg bw/day
7440-69-9	bismuth			
	Worker DNEL, long-term	inhalation	systemic	13,1 mg/m ³
	Consumer DNEL, long-term	oral	systemic	13,3 mg/kg bw/day
7440-22-4	silver			
	Worker DNEL, long-term	inhalation	systemic	0,1 mg/m ³
	Consumer DNEL, long-term	inhalation	systemic	0,04 mg/m ³
	Consumer DNEL, long-term	oral	systemic	1,2 mg/kg bw/day

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PNEC values

CAS No	Substance	Value
Environmental compartment		
7439-92-1	lead massive [particle diameter >= 1 mm]	
Freshwater		0,0024 mg/l
Marine water		0,0033 mg/l
Freshwater sediment		186 mg/kg
Marine sediment		168 mg/kg
Secondary poisoning		10,9 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,1 mg/l
Soil		212 mg/kg
7440-50-8	Copper, massive	
Freshwater		0,0078 mg/l
Marine water		0,0052 mg/l
Freshwater sediment		87 mg/kg
Marine sediment		676 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,23 mg/l
Soil		65 mg/kg
7440-69-9	bismuth	
Micro-organisms in sewage treatment plants (STP)		17,5 mg/l
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

8.2. Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. Provide adequate ventilation as well as local exhaustion at critical locations.
Process within closed systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear eye/face protection.

Hand protection

Wear suitable gloves.

The selected protective gloves have to satisfy the specifications of EU Directive EC/2016/425 and the standard EN 374 derived from it.

In the case of wanting to use the gloves again, clean them before taking off and air them well. Before using check leak tightness / impermeability.

Skin protection

Protective clothing.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

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

Respiratory protection necessary at: Exceeding exposure limit values smoke generation Insufficient ventilation

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Suitable respiratory protective equipment: Particle filter device (EN 143) Type: P3
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, self-contained breathing apparatus must be used.

Environmental exposure controls

This material and its container must be disposed of in a safe way.

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
Melting point/freezing point:	Sn63Pb37: 183		N/A
Boiling point or initial boiling point and boiling range:	not determined		N/A
Flammability			
Solid/liquid:	not determined		
Gas:	not applicable		
Lower explosion limits:	not determined		
Upper explosion limits:	not determined		
Flash point:	not determined		
Auto-ignition temperature:	not determined		
Decomposition temperature:	not determined		
pH-Value:	not applicable		
Viscosity / kinematic:	not determined		
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.		
Solubility in other solvents	The study does not need to be conducted because the substance is known to be insoluble in water.		
Partition coefficient n-octanol/water:	not determined		
Vapour pressure:	not determined		
Density:	Sn63Pb37: 8,4		N/A
Bulk density:	not determined		
Relative vapour density:	not determined		

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

The product is not: Explosive

Self-ignition temperature

Solid: not determined

Oxidizing properties

none

Other safety characteristics

Evaporation rate: not determined

Solid content: not determined

Sublimation point: not determined

Softening point: not determined

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Viscosity / dynamic:

not determined

SECTION 10: Stability and reactivity**10.1. Reactivity**

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

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, Lead oxide

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

No information available.

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-31-5	tin				
	oral	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	inhalation (4 h) dust/mist	LC50 (>4,75) mg/l	Rat	ECHA Dossier	
7439-92-1	lead massive [particle diameter >= 1 mm]				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2003)	OECD Guideline 402
	inhalation (4 h) dust/mist	LC50 > 5 mg/l			
7440-50-8	Copper, massive				
	oral	LD50 > 2500 mg/kg	Rat	ECHA Dossier	WoE
	dermal	LD50 > 2000 mg/kg	Rat	ECHA Dossier	WoE
7440-69-9	bismuth				
	oral	LD50 2000 mg/kg	Rat	ECHA Dossier	

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7440-22-4	silver				
	oral	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 >2000 mg/kg	Rat	ECHA Dossier	
	inhalation (4 h) dust/mist	LC50 >5,16 mg/l	Rat	ECHA Dossier	

Irritation and corrosivity

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

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproductionMay damage fertility. May damage the unborn child. (lead massive [particle diameter \geq 1 mm])May cause harm to breast-fed children. (lead massive [particle diameter \geq 1 mm])

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

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

STOT-single exposure

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

STOT-repeated exposureCauses damage to organs through prolonged or repeated exposure. (lead massive [particle diameter \geq 1 mm])**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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
7439-92-1	lead massive [particle diameter \geq 1 mm]					
	Acute fish toxicity	LC50 1,17 mg/l	96 h	Oncorhynchus mykiss	Publication (1976)	Acute bioassays
	Acute algae toxicity	ErC50 0,123 mg/l	72 h	Raphidocelis subcapitata	Publication (2014)	OECD Guideline 201
	Acute crustacea toxicity	EC50 0,59683 mg/l	48 h	Ceriodaphnia dubia	Study report (2010)	other: USEP
	Fish toxicity	NOEC 0,0293 mg/l	30 d	Pimephales promelas	Study report (2010)	other: USEPA methods for acute and chron
	Crustacea toxicity	NOEC 0,1538 mg/l	25 d	Alona rectangula	Ecotoxicology, 15: 425-436 (2006)	chronic test with lead to cladocerans

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h][d]	Species	Source	Method
7440-50-8	Copper, massive					
	Acute fish toxicity	LC50 [0,004-1,1] mg/l	96 h	Fish	ECHA Dossier	READ ACROSS
	Acute algae toxicity	ErC50 [0,018-0,987] mg/l		algae (72-96h)	ECHA Dossier	READ ACROSS
	Acute crustacea toxicity	EC50 [0,001-0,792] mg/l	48 h	daphnia	ECHA Dossier	READ ACROSS
	Fish toxicity	NOEC [0,002-0,188] mg/l	12 d	Fish (4-330d)	ECHA Dossier	READ ACROSS
	Algae toxicity	NOEC [0,01-0,05] mg/l		algae (10-19d)	ECHA Dossier	READ ACROSS
	Crustacea toxicity	NOEC [0,004-0,145] mg/l		daphnia (4-240d)	ECHA Dossier	READ ACROSS

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

BCF

CAS No	Chemical name	BCF	Species	Source
7439-92-1	lead massive [particle diameter >= 1 mm]	7400	Daphnia magna	Ecotoxicology and En
7440-50-8	Copper, massive	0,02 - 20	Crangon crangon	

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.
The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary. Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation. Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to (EWC) European Waste Catalogue, 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 (EWC) European Waste Catalogue:

List of Wastes Code - 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

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List of Wastes Code - used product

160303 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; inorganic wastes containing hazardous substances; hazardous waste

List of Wastes Code - 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 or ID number: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

refer to chapter 6 - 8

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):
lead massive [particle diameter ≥ 1 mm]

Restrictions on use (REACH, annex XVII):

Entry 30, Entry 75

Information according to 2012/18/EU Not subject to 2012/18/EU (SEVESO III)
(SEVESO III):

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)
The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

REACH 1907/2006 Appendix XVII, No (mixture): 63

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D):

1 - slightly hazardous to water

Additional information

Observe technical data sheet.

15.2. Chemical safety assessment

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

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 1,3,4,5,6,7,8,9,11,12,13,15,16.

Rev.1.0; 06.05.2015: Initial release

Rev.1.1; 03.11.2016: Indication of changes - chapter: 1, 2, 3, 16.

Rev.2.0; 17.04.2018: Changes in chapter: 2, 3, 15.

Rev.2.1; 03.07.2018: Changes in chapter: 3.

Rev.2.2; 25.09.2018: Changes in chapter: 2.

Rev.3.2; 31.01.2023/JTH: Indication of changes - chapter: 1-16.

Rev.3.3; 17.02.2023/JTH: Indication of changes - chapter: 1-16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging of substances and mixtures

DNEL: Derived No Effect Level

d: day(s)

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWC: European Waste Catalogue

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

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)

h: hour

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 concentration

NLP: No-Longer Polymers

N/A: not applicable

OECD: Organisation for Economic Co-operation and Development

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)

REACH: Registration, Evaluation, Authorisation of Chemicals

SVHC: substance of very high concern

TRGS: Technische Regeln für Gefahrstoffe

UN: United Nations

VOC: Volatile Organic Compounds

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Tin-Lead Alloys, potential with additional of other alloying elements

Revision date: 17/02/2023

Product code: 950102

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EL50: Effect loading, 50%
 EC50: Effective Concentration 50%
 ErC50: Effective Concentration 50%, growth rate
 NOEC: No Observed Effect Concentration
 BCF: Bio-concentration factor
 PBT: persistent, bioaccumulative, toxic
 vPvB: very persistent, very bioaccumulative
 ADR: Accord européen sur le transport des marchandises dangereuses par Route
 (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Regulations concerning the international carriage of dangerous goods by rail
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
 intérieures)
 EmS: Emergency Schedules
 MFAG: Medical First Aid Guide
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 IBC: Intermediate Bulk Container
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety
 assessment, chapter R.20 (Table of terms and abbreviations).

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Repr. 1A; H360FD	Calculation method
Lact.; H362	Calculation method
STOT RE 1; H372	Calculation method

Relevant H and EUH statements (number and full text)

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.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. Classification according to Regulation (EC) No 1272/2008 [CLP] -
 Classification procedure:
 Health hazards: Calculation method.
 Environmental hazards: Calculation method.
 Physical hazards: On basis of test data and / or calculated and / or estimated.

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.)