

SAFETY DATA SHEET

Based upon Regulation (EC) No 1907/2006, as amended by Regulation (EU) No 2015/830



SUPERSOLDER

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

1.1. Product identifier

Product name : SUPERSOLDER
Registration number REACH : Not applicable (mixture)
Product type REACH : Mixture/alloy

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

1.2.1 Relevant identified uses

Solder
Professional use

1.2.2 Uses advised against

No uses advised against known

1.3. Details of the supplier of the safety data sheet

Supplier of the safety data sheet

Novatio*
Industrielaan 5B
B-2250 Olen
☎ +32 14 25 76 40
☎ +32 14 22 02 66
info@novatio.be
*NOVATIO is a registered trademark of Novatech International N.V.

Manufacturer of the product

Novatech International N.V.
Industrielaan 5B
B-2250 Olen
☎ +32 14 85 97 37
☎ +32 14 85 97 38
info@tec7.be

1.4. Emergency telephone number

24h/24h (Telephone advice: English, French, German, Dutch) :
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Repr.	category 1A	H360FD: May damage fertility. May damage the unborn child.
Lact.	-	H362: May cause harm to breast-fed children.
STOT RE	category 2	H373: May cause damage to organs (blood, central nervous system, kidneys) through prolonged or repeated exposure if inhaled.
STOT RE	category 2	H373: May cause damage to organs (blood, central nervous system, kidneys) through prolonged or repeated exposure if swallowed.

2.2. Label elements

This substance/mixture, although classified dangerous, does not require a label because of the form in which it is placed on the market (Regulation (EC) No 1272/2008 Annex I chapter 1.3.4)

Supplemental information

Restricted to professional users.

2.3. Other hazards

Heated product causes skin burns
Heated product causes eye burns

SUPERSOLDER

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
lead massive: [particle diameter ≥1mm] 01-2119513221-59	7439-92-1 231-100-4	5%<C<10%	Repr. 1A; H360FD Lact. ; H362 STOT RE 1; H372	(1)(2)(4)(10)	Constituent
tin 01-2119486474-28	7440-31-5 231-141-8	0%<C<95%		(2)	Constituent
antimony 01-2119475609-24	7440-36-0 231-146-5	0%<C<5%		(2)	Constituent
copper 01-2119480154-42	7440-50-8 231-159-6	0%<C<5%		(2)	Constituent
bismuth	7440-69-9 231-177-4	0%<C<5%			Constituent
silver 01-2119555669-21	7440-22-4 231-131-3	0%<C<12%		(2)	Constituent
zinc 01-2119467174-37	7440-66-6 231-175-3	0%<C<25%			Constituent

(1) For H-statements in full: see heading 16

(2) Substance with a Community workplace exposure limit

(4) Enumerated in candidate list of substances of very high concern (SVHC) for authorisation (Article 59 of Regulation (EC) No. 1907/2006)

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

After inhalation:

After inhalation of fume: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Rinse with water. Take victim to a doctor if irritation persists. In case of burns: Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not tear off solidified product from the skin. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

After eye contact:

After contact with fume: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists. In case of burns: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist.

After ingestion:

Rinse mouth with water. Do not induce vomiting. Consult a doctor/medical service if you feel unwell.

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

4.2.1 Acute symptoms

After inhalation:

ON HEATING: AFTER INHALATION OF FUME: Metal fume fever. Feeling of weakness. Body temperature rise. Headache. Nausea. Vomiting. Metal taste. Muscular pain. Rapid respiration. Respiratory difficulties. Possible oedema of the upper respiratory tract. Risk of lung oedema. Respiratory collapse.

After skin contact:

If molten: burns.

After eye contact:

If molten: burns. Visual disturbances.

After ingestion:

No effects known.

4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

SUPERSOLDER

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media:

Adapt extinguishing media to the environment for surrounding fires.

5.1.2 Unsuitable extinguishing media:

Not applicable.

5.2. Special hazards arising from the substance or mixture

On burning: formation of metallic fumes e.g.: lead oxides. In molten state: reacts violently with water (moisture).

5.3. Advice for firefighters

5.3.1 Instructions:

Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

5.3.2 Special protective equipment for fire-fighters:

Gloves. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No naked flames.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2. Environmental precautions

Contain released product. Dam up the solid spill. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

If melted: allow liquid to solidify before taking it up. Pick-up the material. Take collected spill to manufacturer/competent authority. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

See heading 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1. Precautions for safe handling

Keep away from naked flames/heat. Observe very strict hygiene - avoid contact. Remove contaminated clothing immediately. Do not discharge the waste into the drain. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Store in a cool area. Store in a dry area. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, (strong) acids, (strong) bases, oxidizing agents, combustible materials.

7.2.3 Suitable packaging material:

No data available

7.2.4 Non suitable packaging material:

No data available

7.3. Specific end use(s)

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

EU

Inorganic lead and its compounds	Time-weighted average exposure limit 8 h (Binding occupational exposure limit value)	0.15 mg/m ³
Silver, metallic	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	0.1 mg/m ³

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

3 / 14

SUPERSOLDER

Tin (inorganic compounds as Sn)	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	2 mg/m ³
---------------------------------	---	---------------------

Belgium

Antimoine et ses composés (en Sb)	Time-weighted average exposure limit 8 h	0.5 mg/m ³
Argent (métal)	Time-weighted average exposure limit 8 h	0.1 mg/m ³
Cuivre (fumées) (en Cu)	Time-weighted average exposure limit 8 h	0.2 mg/m ³
Cuivre (poussières et brouillards de) (en Cu)	Time-weighted average exposure limit 8 h	1 mg/m ³
Etain (métal)	Time-weighted average exposure limit 8 h	2 mg/m ³
Plomb inorg. (poussières et fumées) (en Pb)	Time-weighted average exposure limit 8 h	0.15 mg/m ³

The Netherlands

Antimoon en -verbindingen (als Sb)	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.5 mg/m ³
Koper en anorganische koperbindingen (inhaleerbaar)	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.1 mg/m ³
Tin (anorganische verbindingen als Sn)	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	2 ppm
Zilver, metallisch	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	0.1 mg/m ³

France

Antimoine et ses composés, en Sb	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	0.5 mg/m ³
Argent (métallique)	Time-weighted average exposure limit 8 h (VRI: Valeur réglementaire indicative)	0.1 mg/m ³
Cuivre (fumées)	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	0.2 mg/m ³
Cuivre (poussières), en Cu	Time-weighted average exposure limit 8 h (VL: Valeur non réglementaire indicative)	1 mg/m ³
	Short time value (VL: Valeur non réglementaire indicative)	2 mg/m ³
Plomb métallique et composés, en Pb	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	0.1 mg/m ³

Germany

Blei und anorganischen Bleiverbindungen	Time-weighted average exposure limit 8 h (TRGS 505)	0.1 mg/m ³
Silber	Time-weighted average exposure limit 8 h (TRGS 900)	0.1 mg/m ³

UK

Antimony	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.5 mg/m ³
Copper fume	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.2 mg/m ³
Lead other than lead alkyls	Time-weighted average exposure limit 8 h (Occupational exposure limit (Control of lead at work))	0.15 mg/m ³
Silver, metallic	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	0.1 mg/m ³

USA (TLV-ACGIH)

Antimony	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.5 mg/m ³
Copper fume	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.2 mg/m ³
Copper dust & mists, as Cu	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	1 mg/m ³
Lead	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.05 mg/m ³
Silver, metal, dust and fume	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	0.1 mg/m ³
Tin Metal	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	2 mg/m ³ (I)

(I): Inhalable fraction

b) National biological limit values

If limit values are applicable and available these will be listed below.

Belgium

Plomb et ses composés ioniques (Lood)	sang	70 µg/100ml	
---------------------------------------	------	-------------	--

Germany

Blei (Blei)	Vollblut: keine beschränkung	300 µg/l (Frauen < 45 J.)	Biologische Grenzwerte können als Konzentrationen, Bildungs- oder Ausscheidungsraten (Menge/Zeiteinheit) definiert sein. Wie bei den Arbeitsplatzgrenzwerten (AGW) wird in der Regel eine Stoffbelastung von maximal acht Stunden täglich und 40 Stunden wöchentlich zugrunde gelegt.
-------------	------------------------------	---------------------------	---

SUPERSOLDER

Blei (Blei)	Vollblut: keine beschränkung	400 µg/l	Biologische Grenzwerte können als Konzentrationen, Bildungs- oder Ausscheidungsraten (Menge/Zeiteinheit) definiert sein. Wie bei den Arbeitsplatzgrenzwerten (AGW) wird in der Regel eine Stoffbelastung von maximal acht Stunden täglich und 40 Stunden wöchentlich zugrunde gelegt.
-------------	------------------------------	----------	---

USA (BEI-ACGIH)

Lead and inorganic compounds (Lead)	Blood: not critical	200 µg/L	
-------------------------------------	---------------------	----------	--

8.1.2 Sampling methods

Product name	Test	Number
elemental lead, lead compounds (except alkyl lead)	NIOSH	7701
Lead (Elements on wipes)	NIOSH	9102
Lead (Elements)	NIOSH	7300
Lead (Elements, aqua regia ashing)	NIOSH	7301
Lead (Elements, hot block/HCl/HNO3 digestion)	NIOSH	7303
Lead (in dust wipes)	NIOSH	9105
Lead (Pb)	NIOSH	7302
Lead (Pb)	NIOSH	7304
Lead (Pb)	NIOSH	7306
Lead (Pb)	NIOSH	8005
Lead (Pb)	NIOSH	8310
Lead bij field portable XRF	NIOSH	7702
Lead on surfaces	NIOSH	9100
Lead	NIOSH	7082
Lead	NIOSH	7105
Lead	NIOSH	8003
Lead	OSHA	1006
Lead	OSHA	ID 105
Lead	OSHA	ID 121
Lead	OSHA	ID 125G
Lead	OSHA	ID 206
N-benzoylglycine	NIOSH	8300
Tin (Elements)	NIOSH	7300
Tin (Elements, aqua regia ashing)	NIOSH	7301
Tin (Elements, hot block/HCl/HNO3 digestion)	NIOSH	7303
Tin (Sn)	NIOSH	7302
Tin (Sn)	NIOSH	7306
Tin (Sn)	NIOSH	8310
Tin	OSHA	ID 121
Tin	OSHA	ID 206

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 Threshold values

DNEL/DMEL - Workers

tin

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	71 mg/m ³	
	Long-term systemic effects dermal	10 mg/kg bw/day	

DNEL/DMEL - General population

tin

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	17 mg/m ³	
	Long-term systemic effects dermal	80 mg/kg bw/day	
	Long-term systemic effects oral	5 mg/kg bw/day	

PNEC

lead massive: [particle diameter ≥1mm]

Compartment	Value	Remark
Fresh water	3.1 µg/l	
Marine water	3.5 µg/l	
STP	100 µg/l	
Fresh water sediment	174 mg/kg sediment dw	
Marine water sediment	164 mg/kg sediment dw	
Soil	212 mg/kg soil dw	
Oral	10.9 mg/kg food	

8.1.5 Control banding

If applicable and available it will be listed below.

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

5 / 14

SUPERSOLDER

8.2. Exposure controls

This safety data sheet is consistent with the specific conditions relied on to justify the registration in accordance with Article 17 or 18 of Regulation (EC) No. 1907/2006.

Following general controls are applicable: Periodic medical examination of workers exposed to lead is necessary.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe very strict hygiene - avoid contact. Do not eat, drink or smoke during work.

a) Respiratory protection:

b) Hand protection:

Protective gloves against chemicals (EN 374), On heating: insulated gloves.

c) Eye protection:

Safety glasses.

d) Skin protection:

Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical form	Solid
	Metal
	May be present in various forms
Odour	Odourless
Odour threshold	Not applicable
Colour	Grey
Particle size	No data available in the literature
Explosion limits	No data available in the literature
Flammability	Not classified as flammable
Log Kow	Not applicable (mixture)
Dynamic viscosity	Not applicable (solid)
Kinematic viscosity	Not applicable (solid)
Melting point	178 °C - 325 °C
Boiling point	> 600 °C
Evaporation rate	Not applicable (solid)
Relative vapour density	Not applicable (solid)
Vapour pressure	Not applicable (solid)
Solubility	Water ; insoluble
Relative density	7.5 - 11.2
Decomposition temperature	No data available in the literature
Auto-ignition temperature	No data available in the literature
Flash point	Not applicable (solid)
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	Not applicable

9.2. Other information

Absolute density	7500 kg/m ³ - 11200 kg/m ³
------------------	--

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

In molten state: reacts violently with water (moisture).

10.4. Conditions to avoid

Precautionary measures

Keep away from naked flames/heat.

10.5. Incompatible materials

(strong) acids, (strong) bases, oxidizing agents, combustible materials.

10.6. Hazardous decomposition products

Reacts with (some) acids/bases: release of highly flammable gases/vapours (hydrogen). On burning: formation of metallic fumes e.g.: lead oxides.

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

6 / 14

SUPERSOLDER

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

SUPERSOLDER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\text{mm}$]

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	OECD 423	> 2000 mg/kg bw		Rat (male / female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male / female)	Experimental value	
Inhalation (dust)	LC50	OECD 403	> 5.05 mg/l	4 h	Rat (male / female)	Experimental value	

tin

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 423	> 2000 mg/kg bw		Rat (male / female)	Experimental value	
Skin	LD50	OECD 402	> 2000 mg/kg bw		Rat (male / female)	Experimental value	
Inhalation (dust)	LC50	OECD 403	> 4.75 mg/l air	4 h	Rat (male / female)	Experimental value	

Conclusion

Not classified for acute toxicity

Corrosion/irritation

SUPERSOLDER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\text{mm}$]

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405	72 h	24; 48; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	OECD 404	4 h	1; 24; 48; 72 hours	Rabbit	Experimental value	

tin

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 405		24; 48; 72 hours	Rabbit	Experimental value	
Skin	Not irritating	OECD 404	4 h	24; 72 hours	Rabbit	Experimental value	

Conclusion

Not classified as irritating to the skin

Not classified as irritating to the eyes

Not classified as irritating to the respiratory system

Respiratory or skin sensitisation

SUPERSOLDER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\text{mm}$]

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin	Not sensitizing	OECD 406		24; 48 hours	Guinea pig (male / female)	Experimental value of similar product	

Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

Specific target organ toxicity

SUPERSOLDER

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

7 / 14

SUPERSOLDER

No (test)data on the mixture available

Classification is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\mu\text{m}$]

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOEL		0.002 mg/kg bw/day		No effect	12 month(s)	Rat	Experimental value
Oral	LOEL		0.005 mg/kg bw/day	Blood	Change in the haemogramme/blood composition	12 month(s)	Rat	Experimental value
Dermal	Dose level		106 mg	Kidney	Affection of the renal tissue	24 h	Rat	Experimental value
Inhalation (aerosol)	Dose level		2.5 mg/m ³ air		Weakening of the immune system	4 week(s)	Mouse	Experimental value

tin

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOEL	OECD 407	> 1000 mg/kg bw/day			28 day(s)	Rat (male / female)	Experimental value

Conclusion

May cause damage to organs (blood, central nervous system, kidneys) through prolonged or repeated exposure if swallowed and if inhaled.

Mutagenicity (in vitro)

SUPERSOLDER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\mu\text{m}$]

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	Equivalent to OECD 471	Bacteria (<i>S.typhimurium</i>)	No effect	Experimental value	
Negative	Equivalent to OECD 473	Chinese hamster lung fibroblasts (V79)	No effect	Experimental value	

tin

Result	Method	Test substrate	Effect	Value determination	Remark
Negative	OECD 471	Bacteria (<i>S.typhimurium</i>)		Experimental value	

Conclusion

Not classified for mutagenic or genotoxic toxicity

Mutagenicity (in vivo)

SUPERSOLDER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\mu\text{m}$]

Result	Method	Exposure time	Test substrate	Organ	Value determination
Positive (Oral (stomach tube))	Micronucleus test	70 day(s)	Rat (female)	Blood	Experimental value of similar product

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

SUPERSOLDER

No (test)data on the mixture available

Judgement is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\mu\text{m}$]

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Inhalation	NOEL	Carcinogenic toxicity study	5 mg/m ³ air	1 year(s)	Rat (male)	No carcinogenic effect	Lungs	Experimental value
Oral (drinking water)	LOAEL	EPA OTS 798.3320	≥ 250 ppm	2 year(s)	Rat (male)	Tumor formation	Kidney	Experimental value

tin

Route of exposure	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Oral		Carcinogenic toxicity study			Rat (male / female)	No carcinogenic effect		Read-across

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

8 / 14

SUPERSOLDER

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

SUPERSOLDER

No (test) data on the mixture available

The chronic toxicity of the component(s) relates only to the substance in finely divided state and/or in molten state

Classification is based on the relevant ingredients

lead massive: [particle diameter $\geq 1\text{mm}$]

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity (Oral (drinking water))	LOEL	Developmental toxicity study	0.05 %	85 day(s)	Rat (female)	Fertility; reproductive performance; systemic toxicity	Reproductive organs	Experimental value
Effects on fertility (Oral (drinking water))	NOAEL		250 mg/l	60 day(s)	Rat (male)	No effect	sperm parameters or estrous cycle	Experimental value

tin

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOEL	OECD 421	> 1000 mg/kg bw/day	54 day(s)	Rat			Experimental value
Effects on fertility	NOEL	OECD 421	> 1000 mg/kg bw/day	54 day(s)	Rat (male / female)			Experimental value

Conclusion

May damage fertility.

May damage the unborn child.

May cause harm to breast-fed children.

Toxicity other effects

SUPERSOLDER

No (test) data on the mixture available

Chronic effects from short and long-term exposure

SUPERSOLDER

Change in the haemogramme/blood composition. Impairment of the nervous system. Affection of the renal tissue.

SECTION 12: Ecological information

12.1. Toxicity

SUPERSOLDER

No (test) data on the mixture available

Judgement is based on the relevant ingredients

Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2. Persistence and degradability

lead massive: [particle diameter $\geq 1\text{mm}$]

Biodegradation water

Method	Value	Duration	Value determination
			Data waiving

Biodegradation soil

Method	Value	Duration	Value determination
			Data waiving

Half-life water (t_{1/2} water)

Method	Value	Primary degradation/mineralisation	Value determination
			Data waiving

Conclusion

Biodegradability: not applicable

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

9 / 14

SUPERSOLDER

12.3. Bioaccumulative potential

SUPERSOLDER

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

lead massive: [particle diameter $\geq 1\text{mm}$]

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

tin

Log Kow

Method	Remark	Value	Temperature	Value determination
	No data available			

Conclusion

No straightforward conclusion can be drawn based upon the available numerical values

12.4. Mobility in soil

Contains component(s) that adsorb(s) into the soil

12.5. Results of PBT and vPvB assessment

The criteria of PBT and vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006 do not apply to inorganic substances.

12.6. Other adverse effects

SUPERSOLDER

Fluorinated greenhouse gases (Regulation (EU) No 517/2014)

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014)

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1. Waste treatment methods

13.1.1 Provisions relating to waste

European Union

Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

06 04 05* (metal-containing wastes other than those mentioned in 06 03: wastes containing other heavy metals). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Do not discharge into surface water (Directive 2000/60/EC, Council Decision 2455/2001/EC).

13.1.3 Packaging/Container

European Union

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR), Rail (RID), Inland waterways (ADN), Sea (IMDG/IMSBC), Air (ICAO-TI/IATA-DGR)

14.1. UN number

Transport	Not subject
-----------	-------------

14.2. UN proper shipping name

14.3. Transport hazard class(es)

Hazard identification number	
Class	
Classification code	

14.4. Packing group

Packing group	
Labels	

14.5. Environmental hazards

Environmentally hazardous substance mark	no
--	----

14.6. Special precautions for user

Special provisions	
Limited quantities	

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

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

10 / 14

SUPERSOLDER

Annex II of MARPOL 73/78

Not applicable

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
	Not applicable (inorganic)

European drinking water standards (Directive 98/83/EC)

lead massive: [particle diameter $\geq 1\text{mm}$]

Parameter	Parametric value	Note	Reference
Lead	10 $\mu\text{g/l}$		Listed in Annex I, Part B, of Directive 98/83/EC on the quality of water intended for human consumption.

copper

Parameter	Parametric value	Note	Reference
Copper	2 mg/l		Listed in Annex I, Part B, of Directive 98/83/EC on the quality of water intended for human consumption.

REACH Candidate list

Contains component(s) included in candidate list of substances of very high concern (SVHC) for authorisation (Article 59 of Regulation (EC) No 1907/2006)

REACH Annex XVII - Restriction

Contains component(s) subject to restrictions of Annex XVII of Regulation (EC) No 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
· lead massive: [particle diameter $\geq 1\text{mm}$]	Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.	Without prejudice to the other parts of this Annex the following shall apply to entries 28 to 30: 1. Shall not be placed on the market, or used, — as substances, — as constituents of other substances, or, — in mixtures, for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than: — either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or, — the relevant generic concentration limit specified in Part 3 of Annex I of Regulation (EC) No 1272/2008. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows: "Restricted to professional users". 2. By way of derogation, paragraph 1 shall not apply to: (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC; (b) cosmetic products as defined by Directive 76/768/EEC; (c) the following fuels and oil products: — motor fuels which are covered by Directive 98/70/EC, — mineral oil products intended for use as fuel in mobile or fixed combustion plants, — fuels sold in closed systems (e.g. liquid gas bottles); (d) artists' paints covered by Regulation (EC) No 1272/2008; (e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date.
· lead massive: [particle diameter $\geq 1\text{mm}$]	Lead and its compounds	1. Shall not be placed on the market or used in any individual part of jewellery articles if the concentration of lead (expressed as metal) in such a part is equal to or greater than 0,05 % by weight. 2. For the purposes of paragraph 1: (i) "jewellery articles" shall include jewellery and imitation jewellery articles and hair accessories, including: (a) bracelets, necklaces and rings; (b) piercing jewellery; (c) wrist watches and wrist-wear; (d) brooches and cufflinks; (ii) "any individual part" shall include the materials from which the jewellery is made, as well as the individual components of the jewellery articles. 3. Paragraph 1 shall also apply to individual parts when placed on the market or used for jewellery-making. 4. By way of derogation, paragraph 1 shall not apply to: (a) crystal glass as defined in Annex I (categories 1, 2, 3 and 4) to Council Directive 69/493/EEC (*); (b) internal components of watch timepieces inaccessible to consumers; (c) non-synthetic or reconstructed precious and semiprecious stones (CN code 7103, as established by Regulation (EEC) No 2658/87), unless they have been treated with lead or its compounds or mixtures containing these substances; (d) enamels, defined as vitrifiable mixtures resulting from the fusion, vitrification or

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

11 / 14

SUPERSOLDER

		<p>sintering of minerals melted at a temperature of at least 500 °C. (*) OJ L 326, 29.12.1969, p. 36.</p> <p>5. By way of derogation, paragraph 1 shall not apply to jewellery articles placed on the market for the first time before 9 October 2013 and jewellery articles produced before 10 December 1961.</p> <p>6. By 9 October 2017, the Commission shall re-evaluate paragraphs 1 to 5 of this entry in the light of new scientific information, including the availability of alternatives and the migration of lead from the articles referred to in paragraph 1 and, if appropriate, modify this entry accordingly.</p> <p>7. Shall not be placed on the market or used in articles supplied to the general public, if the concentration of lead (expressed as metal) in those articles or accessible parts thereof is equal to or greater than 0,05 % by weight, and those articles or accessible parts thereof may, during normal or reasonably foreseeable conditions of use, be placed in the mouth by children.</p> <p>That limit shall not apply where it can be demonstrated that the rate of lead release from such an article or any such accessible part of an article, whether coated or uncoated, does not exceed 0,05 µg/cm² per hour (equivalent to 0,05 µg/g/h), and, for coated articles, that the coating is sufficient to ensure that this release rate is not exceeded for a period of at least two years of normal or reasonably foreseeable conditions of use of the article.</p> <p>For the purposes of this paragraph, it is considered that an article or accessible part of an article may be placed in the mouth by children if it is smaller than 5 cm in one dimension or has a detachable or protruding part of that size.</p> <p>8. By way of derogation, paragraph 7 shall not apply to:</p> <p>(a) jewellery articles covered by paragraph 1;</p> <p>(b) crystal glass as defined in Annex I (categories 1, 2, 3 and 4) to Directive 69/493/EEC;</p> <p>(c) non-synthetic or reconstructed precious and semi-precious stones (CN code 7103 as established by Regulation (EEC) No 2658/87) unless they have been treated with lead or its compounds or mixtures containing these substances;</p> <p>(d) enamels, defined as vitrifiable mixtures resulting from the fusion, vitrification or sintering of mineral melted at a temperature of at least 500 °C;</p> <p>(e) keys and locks, including padlocks;</p> <p>(f) musical instruments;</p> <p>(g) articles and parts of articles comprising brass alloys, if the concentration of lead (expressed as metal) in the brass alloy does not exceed 0,5 % by weight;</p> <p>(h) the tips of writing instruments;</p> <p>(i) religious articles;</p> <p>(j) portable zinc-carbon batteries and button cell batteries;</p> <p>(k) articles within the scope of:</p> <p>(i) Directive 94/62/EC;</p> <p>(ii) Regulation (EC) No 1935/2004;</p> <p>(iii) Directive 2009/48/EC of the European Parliament and of the Council (*);</p> <p>(iv) Directive 2011/65/EU of the European Parliament and of the Council (**)</p> <p>9. By 1 July 2019, the Commission shall re-evaluate paragraphs 7 and 8(e), (f), (i) and (j) of this entry in the light of new scientific information, including the availability of alternatives and the migration of lead from the articles referred to in paragraph 7, including the requirement on coating integrity, and, if appropriate, modify this entry accordingly.</p> <p>10. By way of derogation paragraph 7 shall not apply to articles placed on the market for the first time before 1 June 2016.</p> <p>(*) Directive 2009/48/EC of the European Parliament and of the Council of 18 June 2009 on the safety of toys (OJ L 170, 30.6.2009, p. 1).</p> <p>(**) Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (OJ L 174, 1.7.2011, p. 88).</p>
<p>· lead massive: [particle diameter ≥1mm]</p>	<p>The substances listed in column 1 of the Table in Appendix 12</p>	<p>1. Shall not be placed on the market after 1 November 2020 in any of the following:</p> <p>(a) clothing or related accessories;</p> <p>(b) textiles other than clothing which, under normal or reasonably foreseeable conditions of use, come into contact with human skin to an extent similar to clothing;</p> <p>(c) footwear;</p> <p>if the clothing, related accessory, textile other than clothing or footwear is for use by consumers and the substance is present in a concentration, measured in homogeneous material, equal to or greater than that specified for that substance in Appendix 12.</p> <p>2. By way of derogation, in relation to the placing on the market of formaldehyde [CAS No 50-00-0] in jackets, coats or upholstery, the relevant concentration for the purposes of paragraph 1 shall be 300 mg/kg during the period between 1 November 2020 and 1 November 2023. The concentration specified in Appendix 12 shall apply thereafter.</p> <p>3. Paragraph 1 shall not apply to:</p> <p>(a) clothing, related accessories or footwear, or parts of clothing, related accessories or footwear, made exclusively of natural leather, fur or hide;</p> <p>(b) non-textile fasteners and non-textile decorative attachments;</p> <p>(c) second-hand clothing, related accessories, textiles other than clothing or footwear</p> <p>(d) wall-to-wall carpets and textile floor coverings for indoor use, rugs and runners.</p> <p>4. Paragraph 1 shall not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 of the European Parliament and of the Council (*) or Regulation (EU) 2017/745 of the European Parliament and of the Council (**).</p> <p>5. Paragraph 1(b) shall not apply to disposable textiles. 'Disposable textiles' means textiles that are designed to be used only once or for a limited time and are not intended for subsequent use for the same or a similar purpose.</p> <p>6. Paragraphs 1 and 2 shall apply without prejudice to the application of any stricter restrictions set out in this Annex or in other applicable Union legislation.</p> <p>7. The Commission shall review the exemption in paragraph 3(d) and, if appropriate, modify that point accordingly.</p>

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

12 / 14

SUPERSOLDER

(*) Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC (OJ L 81, 31.3.2016, p. 51).
(**) Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC (OJ L 117, 5.5.2017, p. 1).

National legislation Belgium

SUPERSOLDER

No data available

tin

Résorption peau	Etain (métal); D; La mention "D" signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air.
-----------------	--

National legislation The Netherlands

SUPERSOLDER

Waterbezwaarlijkheid	Z (2); Algemene Beoordelingsmethodiek (ABM)
----------------------	---

lead massive: [particle diameter $\geq 1\text{mm}$]

SZW - Lijst van voor de voortplanting giftige stoffen (ontwikkeling)	Lood, metallisch; 1A; May damage the unborn child.
--	--

SZW - Lijst van voor de voortplanting giftige stoffen (vruchtbaarheid)	Lood, metallisch; 2; Suspected of damaging fertility.
--	---

SZW - Lijst van voor de voortplanting giftige stoffen (borstvoeding)	Lood, metallisch; May cause harm to breastfed babies
--	--

National legislation France

SUPERSOLDER

No data available

lead massive: [particle diameter $\geq 1\text{mm}$]

Catégorie cancérogène	Plomb métallique et composés, en Pb; (C1A,C1B,C2)
-----------------------	---

Catégorie toxique pour la reproduction	Plomb métallique et composés, en Pb; (R1A,R1B,R2)
--	---

National legislation Germany

SUPERSOLDER

WGK	1; Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (AwSV) - 18. April 2017
-----	--

lead massive: [particle diameter $\geq 1\text{mm}$]

TA-Luft	5.2.2/II
---------	----------

TRGS905 - Fruchtbareitsgefährdend	Blei-Metall (bioverfügbar); 2
-----------------------------------	-------------------------------

TRGS905 - Fruchtschädigend	Blei-Metall (bioverfügbar); 1A
----------------------------	--------------------------------

tin

TA-Luft	5.2.1
---------	-------

National legislation United Kingdom

SUPERSOLDER

No data available

Other relevant data

SUPERSOLDER

No data available

lead massive: [particle diameter $\geq 1\text{mm}$]

IARC - classification	2B; Lead and lead compounds
-----------------------	-----------------------------

TLV - Carcinogen	Lead; A3
------------------	----------

15.2. Chemical safety assessment

No chemical safety assessment has been conducted for the mixture.

SECTION 16: Other information

Full text of any H-statements referred to under heading 3:

H360FD May damage fertility. May damage the unborn child.

H362 May cause harm to breast-fed children.

H372 Causes damage to organs (blood, central nervous system, kidneys) through prolonged or repeated exposure.

H373 May cause damage to organs (blood, central nervous system, kidneys) through prolonged or repeated exposure if swallowed.

H373 May cause damage to organs (blood, central nervous system, kidneys) through prolonged or repeated exposure if inhaled.

(*) INTERNAL CLASSIFICATION BY BIG

ADI Acceptable daily intake

AOEL Acceptable operator exposure level

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

Reason for revision: 2; 3; 5; 8; 12; 15

Publication date: 2005-12-21

Date of revision: 2019-08-05

Revision number: 0600

Product number: 41058

13 / 14

SUPERSOLDER

DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
EC50	Effect Concentration 50 %
ErC50	EC50 in terms of reduction of growth rate
LC50	Lethal Concentration 50 %
LD50	Lethal Dose 50 %
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent, Bioaccumulative & Toxic
PNEC	Predicted No Effect Concentration
STP	Sludge Treatment Process
vPvB	very Persistent & very Bioaccumulative

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.