SAFETY DATA SHEET



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

SUPERSOLDER RoHS

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

1.1. Product identifier

Product name: SUPERSOLDER RoHSRegistration number REACH: Not applicable (mixture)Product type REACH: Mixture

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

1.2.1 Relevant identified uses Solder

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 S +32 14 25 76 40 H +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 58 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

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

2.2. Label elements

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

2.3. Other hazards

No other hazards known

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Revision number: 0001

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
tin	7440-31-5 231-141-8	80% <c<100%< td=""><td></td><td>(2)</td><td>Constituent</td></c<100%<>		(2)	Constituent
silver	7440-22-4 231-131-3	1% <c<5%< td=""><td></td><td>(2)</td><td>Constituent</td></c<5%<>		(2)	Constituent
additive		1% <c<5%< td=""><td></td><td></td><td>Constituent</td></c<5%<>			Constituent
(2) Substance with a Community workplace exposure limit					

Created by: Brandweerinformatiecentrum voor gevaarlijke stoffen vzw (BIG) Technische Schoolstraat 43 A, B-2440 Geel http://www.big.be © BIG vzw Reason for revision: 2; 3; 5; 16 Publication date: 2014-06-26 Date of revision: 2017-05-15 134-16239-552-en

SECTION 4: First aid measures

4.1. Description of first aid measures

General:

If you feel unwell, seek medical advice.

After inhalation:

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.

After eye contact:

Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists. After ingestion:

Rinse mouth with water. 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: No effects known. After skin contact: Slight irritation.

After eye contact:

Slight irritation.

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.1.1 Suitable extinguishing media

Small fire: Water (quick-acting extinguisher, reel), Quick-acting ABC powder extinguisher, Class A foam extinguisher. Major fire: Water, Class A foam

5.1.2 Unsuitable extinguishing media

Small fire: Quick-acting CO2 extinguisher, Quick-acting BC powder extinguisher.

5.2. Special hazards arising from the substance or mixture

On burning: formation of metallic fumes.

5.3. Advice for firefighters

5.3.1 Instructions:

Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

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.

6.3. Methods and material for containment and cleaning up

Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4. Reference to other sections

See heading 13.

Reason for revision: 2; 3; 5; 16

Publication date: 2014-06-26 Date of revision: 2017-05-15

Revision number: 0001

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 normal hygiene standards. Keep container tightly closed.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1 Safe storage requirements:

Keep container in a well-ventilated place. Protect against frost. Keep container tightly closed. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources.

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.

Silver, metallic	Time-weighted avera exposure limit value)	ge exposure limit 8 h (Indicative occupational	0.1 mg/m ³
Tin (inorganic compounds as Sn)	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)		
Belgium			
Argent (métal)	Time-weighted avera	ge exposure limit 8 h	0.1 mg/m ³
Etain (métal)	Time-weighted avera	ge exposure limit 8 h	2 mg/m ³
The Netherlands			
Tin (anorganische verbindingen als Sn)	Time-weighted avera limit value)	ge exposure limit 8 h (Public occupational expo	sure 2 ppm
Zilver, metallisch	Time-weighted avera limit value)	ge exposure limit 8 h (Public occupational expo	sure 0.1 mg/m ³
France			
Argent (métallique)	Time-weighted avera indicative)	ge exposure limit 8 h (VRI: Valeur réglementaire	e 0.1 mg/m ³
Germany			
Silber	Time-weighted avera	ge exposure limit 8 h (TRGS 900)	0.1 mg/m ³
nk			
Silver, metallic	Time-weighted avera (EH40/2005))	ge exposure limit 8 h (Workplace exposure limit	0.1 mg/m ³
USA (TLV-ACGIH)			
Silver, metal, dust and fume	Time-weighted avera	ge exposure limit 8 h (TLV - Adopted Value)	0.1 mg/m ³
Tin Metal	Time-weighted avera	ge exposure limit 8 h (TLV - Adopted Value)	2 mg/m ³
b) National biological limit values If limit values are applicable and available these will be list .1.2 Sampling methods If applicable and available it will be listed below	ed below.		
Silver (Ag) (Elements)	NIOSH	7300	
Silver (Ag) (Elements, aqua regia ashing)	NIOSH	7301	
Silver (Ag) (Elements, hot block/HCl/HNO3 digestion)	NIOSH	7303	
Silver (Ag)	NIOSH	8005	
Silver (Ag)	NIOSH	8310	
Silver (Elements on wipes)	NIOSH	9102	
Silver	OSHA	ID 121	
Tin (Elements)	NIOSH	7300	
Tin (Elements, aqua regia ashing)	NIOSH	7301	
or revision: 2; 3; 5; 16		Publication date: 2014-06-26	
		Date of revision: 2017-05-15	
		Deschart surgel 54044	
number: UUU		Product number: 54814	

Tin (Elements, hot block/HCl/HNO3 digestion)	NIOSH	7303
Tin (Sn)	NIOSH	8310
Tin	OSHA	ID 121
Tin	OSHA	ID 206

Long-term systemic effects inhalation

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

Туре

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

8.1.4 DNEL/PNEC values

DNEL/DMEL - Workers

Effect level (DNEL/DMEL)	Туре	Value	Remark
DNEL	Long-term systemic effects inhalation	11.75 mg/m ³	
	Acute systemic effects inhalation	11.75 mg/m ³	
	Long-term systemic effects dermal	133.3 mg/kg bw/day	
silver	·		

Value

0.1 mg/m³

Remark

Effect level (DNEL/DMEL) DNEL

DNEL/DMEL - General population

ŀ	in			
L				

Effect level (DNEL/DMEL)	Туре	Value	Remark
DNEL	Long-term systemic effects inhalation	3.476 mg/m ³	
	Acute systemic effects inhalation	3.476 mg/m ³	
	Long-term systemic effects dermal	80 mg/kg bw/day	
	Acute systemic effects dermal	80 mg/kg bw/day	
	Long-term systemic effects oral	80 mg/kg bw/day	
	Acute systemic effects oral	80 mg/kg bw/day	
silver			
Effect level (DNEL/DMEL)	Туре	Value	Remark

Effect level (DNEL/DIVIEL)	Туре	value	Remark
DNEL	Long-term systemic effects inhalation	0.04 mg/m³	
	Long-term systemic effects oral	1.2 mg/kg bw/day	

PNEC silver

iver		
Compartments	Value	Remark
Fresh water	0.04 μg/l	
Marine water	0.86 µg/l	
STP	0.025 mg/l	
Fresh water sediment	438.13 mg/kg sediment dw	
Marine water sediment	438.13 mg/kg sediment dw	
Soil	1.41 mg/kg soil dw	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2. Exposure controls

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.

8.2.1 Appropriate engineering controls

Keep away from naked flames/heat. 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 normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during work.

a) Respiratory protection:

Dust production: dust mask with filter type P1.

b) Hand protection:

Gloves.

c) Eye protection:

Safety glasses. In case of dust production: protective goggles.

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	
Odour	No data available on odour	
Odour threshold	No data available	
Colour	Grey	
Particle size	No data available	
Explosion limits	No data available	

Reason for revision: 2; 3; 5; 16

Publication date: 2014-06-26 Date of revision: 2017-05-15

Product number: 54814

Flammability	Non combustible	
Log Kow	Not applicable (mixture)	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	
Melting point	No data available	
Boiling point	No data available	
Flash point	No data available	
Evaporation rate	No data available	
Relative vapour density	No data available	
Vapour pressure	No data available	
Solubility	Water ; insoluble	
Relative density	No data available	
Decomposition temperature	No data available	
Auto-ignition temperature	No data available	
Explosive properties	No chemical group associated with explosive properties	
Oxidising properties	No chemical group associated with oxidising properties	
рН	No data available	

9.2. Other information

No data available

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 No data available.

- 10.4. Conditions to avoid Keep away from naked flames/heat.
- 10.5. Incompatible materials No data available.

10.6. Hazardous decomposition products

On burning: formation of metallic fumes.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

11.1.1 Test results

Acute toxicity

SUPERSOLDER RoHS

No (test)data on the mixture available

<u>tin</u>

	Route of exposure	Parameter	Method	Value	Exposure time	Species	Value	Remark
							determination	
	Oral	LD50	OECD 423	> 2000 mg/kg bw		Rat (female)	Experimental value	
	Dermal	LD50	OECD 402	> 2000 mg/kg bw	24 h	Rat (male/female)	Experimental value	
	Inhalation (dust)	LC50	OECD 403	> 4.75 mg/l air	4 h	Rat (male/female)	Experimental value	
silv	er							

111	or
IIV	

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value	Remark
						determination	
Oral	LD50	OECD 401	> 5110 mg/kg bw		Rat (male/female)	Experimental value	
Dermal	LD50	OECD 402	> 2000 mg/kg	24 h	Rat (male/female)	Experimental value	
Inhalation (dust)	LC50	OECD 436	> 5.16 mg/l air	4 h	Rat (male/female)	Experimental value	

Judgement is based on the relevant ingredients

Conclusion

Not classified for acute toxicity

Corrosion/irritation

SUPERSOLDER RoHS

No (test)data on the mixture available

Reason for revision: 2; 3; 5; 16

		-						
Route of exposure	Result	Method	Exp	osure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 4(5		24; 48; 72 hours	Rabbit	Experimental valu	e
Skin	Not irritating	OECD 40)4 4 h		24; 72 hours	Rabbit	Experimental valu	e
er								
Route of exposure	Result	Method	Exp	osure time	Time point	Species	Value determination	Remark
Eye	Not irritating	OECD 40)5		1; 24; 48; 72 hour	s Rabbit	Experimental valu	e
Skin	Not irritating	OECD 40)4 4 h		24; 48; 72 hours	Rabbit		
t classified as irritat t classified as irritat ory or skin sensitis SOLDER ROHS	ing to the skin ing to the eyes ation							
(test)data on the n	nixture availabl	e					_	
oute of exposure	Result	Method	Expo	sure time	Observation time point	Species	Value determination	Remark
kin	Not sensitizing	Human obs	servation			Human	Experimental value	
oute of exposure	Result	Method	Ехро	sure time	Observation time point	Species	Value determination	Remark
kin	Not sensitizing	OECD 406			24; 48 hours	Guinea pig	Experimental value	
lusion t classified as sensi t classified as sensi target organ toxici tSOLDER RoHS est)data on the mix	tizing for skin tizing for inhala t y cture available	ition						
Iusion t classified as sensi t classified as sensi target organ toxici (SOLDER ROHS (SOLDER ROHS) est)data on the mix Route of exposure	tizing for skin tizing for inhala t y «ture available Parameter	ition Method	Value	Organ	Effect	Exposure time	Species	Value
Iusion t classified as sensi t classified as sensi target organ toxici (SOLDER ROHS est)data on the mix Route of exposure	tizing for skin tizing for inhala t y <ture available<br="">Parameter</ture>	Method	Value	Organ	Effect	Exposure time	Species	Value determinat
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the miz Route of exposure Oral (stomach tube)	tizing for skin tizing for inhala t y «ture available Parameter NOEL	Method OECD 407	Value > 1000 mg/k bw/day	Organ	Effect No effect	Exposure time 28 day(s)	Species Rat (male/female)	Value determinat Experiment value
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the miz Route of exposure Oral (stomach tube) er	tizing for skin tizing for inhala t y «ture available Parameter NOEL	Method OECD 407	Value > 1000 mg/k bw/day	Organ	Effect No effect	Exposure time 28 day(s)	Species Rat (male/female)	Value determinat Experiment value
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER RoHS est)data on the mix Route of exposure Oral (stomach tube) er Route of exposure	tizing for skin tizing for inhala ty kture available Parameter NOEL	Method OECD 407 Method	Value > 1000 mg/k bw/day Value	Organ 3 Organ	Effect No effect Effect	Exposure time 28 day(s) Exposure time	Species Rat (male/female) Species	Value determinat Experiment value Value determinat
Iusion t classified as sensi t classified as sensi target organ toxicit (SOLDER ROHS est)data on the mix Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube)	tizing for skin tizing for inhala ty xture available Parameter NOEL Parameter NOAEL	Method OECD 407 Method OECD 408	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day	Organ 3 Organ	Effect No effect Effect No effect	Exposure time 28 day(s) Exposure time 13 weeks (daily	Species Rat (male/female) Species	Value determinat Experiment value Value determinat Experiment
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the miz Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube) Inhalation (aeroso	tizing for skin tizing for inhala ty xture available Parameter NOEL Parameter NOAEL NOAEL	Method OECD 407 Method OECD 408 OECD 413	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 µg/m³	Organ 3 Organ	Effect No effect Effect No effect No effect No effect No effect	Exposure time 28 day(s) Exposure time 13 weeks (daily 13 weeks (6h/d days/week)	Species Rat (male/female) V Rat (male/female) Iay, 5 Rat (male/female)	Value determinat Experiment value Value determinat Experiment value Experiment value
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the mix Route of exposure Oral (stomach tube) Proved of exposure Oral (stomach tube) Inhalation (aeroso Igement is based of Inhalation (aeroso Iusion t classified for subc hicity (in vitro) SOLDER ROHS (test)data on the m	tizing for skin tizing for inhala ty kture available Parameter NOEL Parameter NOAEL NOAEL NOAEC the relevant i hronic toxicity	Method OECD 407 OECD 408 OECD 413 ngredients	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 μg/m ³	Organ 3 Organ	Effect No effect Effect No effect No effect No effect	Exposure time 28 day(s) Exposure time 13 weeks (daily 13 weeks (6h/d days/week)	Species Rat (male/female) Species () Rat (male/female) lay, 5 Rat (male/female)	Value determinat Experiment value Value determinat Experiment value Experiment value
Iusion t classified as sensit t classified as sensit t classified as sensit target organ toxicit SOLDER ROHS est)data on the mixing Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube) Inhalation (aeroso Inhalation (aeroso Iusion t classified for subc nicity (in vitro) SOLDER ROHS (test)data on the n	tizing for skin tizing for inhala ty xture available Parameter NOEL Parameter NOEL Parameter NOAEL NOAEL NOAEL NOAEC I the relevant i hronic toxicity	e e e e e	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 μg/m ³	Organ Organ Organ	Effect No effect Effect No effect No effect	Exposure time 28 day(s) Exposure time 13 weeks (daily 13 weeks (6h/d days/week)	Species Rat (male/female) Species () Rat (male/female) lay, 5 Rat (male/female)	Value determinat Experiment value Value determinat Experiment value Experiment value
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the mix Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube) Inhalation (aeroso Igement is based on Iusion t classified for subc hicity (in vitro) SOLDER ROHS (test)data on the mix Result Negative with mot	tizing for skin tizing for inhala ty xture available Parameter NOEL Parameter NOEL Parameter NOAEL NOAEL NOAEL NOAEL NOAEL NOAEC n the relevant i hronic toxicity	e e e e e e e e e e e e e e e e e e e	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 μg/m ³	Organ Organ Organ Test substi	Effect No effect Effect No effect No effect No effect	Effect	Species Rat (male/female) Species () Rat (male/female) Rat (male/female) Rat (male/female) Value det	Value determinat Experiment value Value Experiment value Experiment value
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the mix Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube) Inhalation (aeroso gement is based on Iusion t classified for subc hicity (in vitro) ISOLDER ROHS (test)data on the m Result Negative with met activation, negative metabolic activatio	tizing for skin tizing for inhala ty kture available Parameter NOEL Parameter NOAEL NOAEL NOAEC the relevant i hronic toxicity nixture availabl mabolic e without	e e e e e e e e e e e e e e e e e e e	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 μg/m ³	Organ Organ Organ Test substi Bacteria (S	Effect No effect Image: Bigger of the sector of the secto	Effect Effect Exposure time 28 day(s) Exposure time 13 weeks (daily 13 weeks (daily days/week) Effect No effect	Species Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Value det Experime	Value determinat value Value determinat Experiment value Experiment value
Iusion t classified as sensi t classified as sensi target organ toxicit SOLDER ROHS est)data on the mix Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube) Inhalation (aeroso gement is based on Iusion t classified for subc hicity (in vitro) SOLDER ROHS (test)data on the n Result Negative with met activation, negative metabolic activatio er	tizing for skin tizing for inhala ty kture available Parameter NOEL Parameter NOAEL NOAEL NOAEC n the relevant i hronic toxicity nixture availabl Mabolic e without	e e e e e e e e e e e e e e e e e e e	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 µg/m ³	Organ Organ Organ Test subst Bacteria (S	Effect No effect Image: Select selec	Exposure time 28 day(s) Exposure time 13 weeks (daily 13 weeks (6h/d days/week) Effect No effect	Species Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Value det Experime	Value determinat Experiment value Value determinat Experiment value Experiment value
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the mix Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube) Inhalation (aeroso gement is based on Iusion t classified for subc nicity (in vitro) SOLDER ROHS (test)data on the n Result Negative with met activation, negative metabolic activatio er Result	tizing for skin tizing for inhala ty kture available Parameter NOEL Parameter NOAEL NOAEL NOAEC n the relevant i hronic toxicity nixture availabl mabolic e without m	e e e ethod ECD 407 OECD 407 OECD 408 OECD 413 orgredients e e ethod ECD 471	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 μg/m³	Organ Organ Organ Test substi Bacteria (S	Effect No effect Image: Stress of the stres	Exposure time 28 day(s) Exposure time 13 weeks (daily 13 weeks (6h/d days/week) Effect No effect	Species Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Value det Experime Value det	Value determinat value Value determinat Experiment value Experiment value ermination
Iusion t classified as sensi t classified as sensi target organ toxici SOLDER ROHS est)data on the mix Route of exposure Oral (stomach tube) er Route of exposure Oral (stomach tube) Inhalation (aeroso gement is based on Iusion t classified for subc hicity (in vitro) SOLDER ROHS (test)data on the n Result Negative with met activation, negativ metabolic activatio er Result Negative with met activation, negativ	tizing for skin tizing for inhala ty kture available Parameter NOEL NOEL NOAEL NOAEL NOAEC Nthe relevant i hronic toxicity nixture availabl Mabolic e without NOAEC	e e e e thod ECD 407 e thod CECD 407 e e e e e e e e e e e e e e e e e e e	Value > 1000 mg/k bw/day Value 30 mg/kg bw/day 133 μg/m³	Organ 3 Organ 3 Organ 4 Dorgan 5 Bacteria (S Human lyn	Effect No effect Effect No effect No effect No effect .typhimurium) rate nphocytes	Exposure time 28 day(s) Exposure time 13 weeks (daily 13 weeks (6h/d days/week) Effect No effect No effect No effect	Species Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Rat (male/female) Value det Experime Value det Experime	Value determinat Experiment value Value determination Experiment value Experiment value Experiment value ermination ntal value ermination ntal value

Reason for revision: 2; 3; 5; 16

Publication date: 2014-06-26 Date of revision: 2017-05-15

Revision number: 0001

Mutagenicity (in vivo)

SUPERSOLDER RoHS

No (test)data on the mixture available

<u>silver</u>

	Result	Method	Exposure time	Test substrate	Organ	Value determination
I	Positive	OECD 475		Mouse (male)	Bone marrow	Experimental value
I	Negative	OECD 474	13 weeks (6h/day, 5 days/week)	Rat (male/female)	Bone marrow	Experimental value

Judgement is based on the relevant ingredients

Conclusion

Not classified for mutagenic or genotoxic toxicity

Carcinogenicity

SUPERSOLDER RoHS

No (test)data on the mixture available

Judgement is based on the relevant ingredients

Conclusion

Not classified for carcinogenicity

Reproductive toxicity

SUPERSOLDER RoHS

No (test)data on the mixture available

<u>tin</u>									
		Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
	Developmental toxicity	NOEL	OECD 421	> 1000 mg/kg bw/day	56 day(s)	Rat	No effect	Foetus	Experimental value
	Maternal toxicity	NOEL	OECD 421	> 1000 mg/kg bw/day	56 day(s)	Rat	No effect		Experimental value
	Effects on fertility	NOEL	OECD 421	> 1000 mg/kg bw/day	56 day(s)	Rat (male/female)	No effect		Experimental value

silver

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value
								determination
Developmental toxicity	NOAEL	Equivalent to OECD 414	> 100 mg/kg bw/day	14 days (gestation, daily)	Rat (female)	No effect	Foetus	Experimental value
Maternal toxicity	NOAEL	Equivalent to OECD 414	10 mg/kg bw/day	14 days (gestation, daily)	Rat (female)	No effect		Experimental value
Effects on fertility	NOAEL	OECD 422	≥ 250 mg/kg bw/dav		Rat (male/female)	No effect		Experimental value

Judgement is based on the relevant ingredients

<u>Conclusion</u> Not classified for reprotoxic or developmental toxicity

Toxicity other effects

SUPERSOLDER RoHS

No (test)data on the mixture available

Chronic effects from short and long-term exposure

SUPERSOLDER RoHS No effects known.

SECTION 12: Ecological information

12.1. Toxicity

<u>SUPERSOLDER RoHS</u> No (test)data on the mixture available

Reason for revision: 2; 3; 5; 16

Publication date: 2014-06-26 Date of revision: 2017-05-15

Revision number: 0001

Product number: 54814

<u>tin</u>

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt	Value determination
							water	
Acute toxicity fishes	LC50	OECD 203	> 12.4 mg/l	96 h	Pimephales	Static system	Fresh water	Experimental value;
					promelas			GLP
Toxicity algae and other aquatic	ErC50	OECD 201	> 19.2 mg/l	72 h	Pseudokirchnerie	Static system	Salt water	Experimental value;
plants					lla subcapitata			GLP
Long-term toxicity aquatic	NOEC	US EPA	107.3 mg/l	7 day(s)	Ceriodaphnia	Semi-static	Fresh water	Experimental value;
crustacea					dubia	system		GLP

Judgement of the mixture 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

Biodegradability: not applicable

12.3. Bioaccumulative potential

SUPERSOLDER RoHS

Log Kow

Method	Remark	Value	Temperature	Value determination
	Not applicable (mixture)			

<u>tin</u>

Method	Remark	Value	Temperature	Value determination	
	No data available				

silver Log Kow

-		-			
	Method	Remark	Value	Temperature	Value determination
		Not applicable			
Conc	lusion				

No test data of component(s) available

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 RoHS

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

Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014. Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

17 04 07 (metals (including their alloys): mixed metals). Depending on branch of industry and production process, also other waste codes may be applicable.

13.1.2 Disposal methods

Recycle/reuse. Remove waste in accordance with local and/or national regulations. Do not discharge into drains or the environment.

13.1.3 Packaging/Container

No data available

Reason for revision: 2; 3; 5; 16

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 Annex II of MARPOL 73/78 **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) **National legislation Belgium** SUPERSOLDER RoHS No data available <u>tin</u> 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 RoHS Waterbezwaarlijkheid Z (2) National legislation France SUPERSOLDER RoHS No data available **National legislation Germany** SUPERSOLDER RoHS WGK nwg; Classification non-water polluting based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 4) <u>tin</u> 5.2.2; III TA-Luft National legislation United Kingdom SUPERSOLDER RoHS No data available Other relevant data SUPERSOLDER RoHS No data available 15.2. Chemical safety assessment No chemical safety assessment has been conducted for the mixture.

Reason for revision: 2; 3; 5; 16

SECTION 16: Other information

(*)	INTERNAL CLASSIFICATION BY BIG
CLP (EU-GHS)	Classification, labelling and packaging (Globally Harmonised System in Europe)
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. Old versions must be destroyed. 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 are a 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.

Reason for revision: 2; 3; 5; 16