IF 14-16, IF14-22

SAFETY DATA SHEET

RoHS compliant

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Revision date: 10/12/2019 Supersedes: 30/01/2017 Date of issue: 29/06/2005 Version: 9.3

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

1.1. Product identifier

Product form : Mixture

Trade name : IF14-16, IF14-22 Lead-Free, Halide Free, No-Clean Solder Wire

Product code : SW16*, SW22* (Sn96,5Ag3,5/Sn99,3Cu0,7/SAC305/SAC387/Sn99Ag0,3Cu0,7, Sn99Q^{C})

(* All packaging included)

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

1.2.1. Relevant identified uses

Main use category : Industrial use

Use of the substance/mixture : Solder wire

Title	Use descriptors
Manufacture of basic metals, including alloys	SU0, SU14, SU16, PC7, PC38

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Interflux® Electronics nv
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GENT
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reach@interflux.com - www.interflux.com

1.4. Emergency telephone number

Emergency number : ++1-703-527-3887 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) no 1272/2008 (CLP)

Not classified

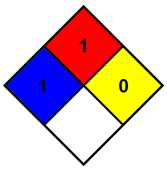
Adverse physicochemical, human health and environmental effects

No additional information available

Other information

NFPA-code : 1-1-0

:



2.2. Label elements

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

Precautionary statements (CLP) : P273 - Avoid release to the environment

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

Other hazards not contributing to the classification : The product is not hazardous as supplied nor is it hazardous when handled under normal conditions. This product may become hazardous in use and the information in this data sheet reflects the hazards associated with solder operations.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) no 1272/2008 (CLP)
tin	(CAS N°) 7440-31-5 (EC N°) 231-141-8 (REACH-no) 01-2119486474-28	*)	Not classified
silver	(CAS N°) 7440-22-4 (EC N°) 231-131-3 (REACH-no) 01-2119555669-21	*)	Not classified
copper	(CAS N°) 7440-50-8 (EC N°) 231-159-6 (REACH-no) 01-2119480154-42	*)	Aquatic Acute 1, H400
flux incorporated	-	1.6 ±0.2 2.2 ±0.2	Not classified

Full text of H-statements: see section 16

*) Weight dependent on the respective alloy (see alloy overview)

Alloys	Tin % wt	Silver % wt	Copper % wt	Dopants
Sn96,5Ag3,5	Rest	3,5±0.2	-	-
Sn99,3Cu0,7	Rest	-	0,7±0.2	-
Sn96,5Ag3Cu0,5	Rest	3,0±0.2	0,5±0.2	-
Sn95,5Ag3,8Cu0,7	Rest	3,8±0.2	0,7±0.2	-
Sn99Ag0,3Cu0,7	Rest	0,3±0.1	0,7±0.2	-
Sn99Q^{C}	Rest	-	-	< 1%

SECTION 4: First aid measures

4.1. Description of first aid measures

First aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First aid measures after skin contact : Lead-free solder alloys are not likely to have a harmful effect on the skin. Wash hands immediately after handling the product. In case of splash from molten metal, wash affected skin areas with copious amounts of running water. Further treatment of the burn. Soap may be used. Take victim to a doctor if irritation persists.

First aid measures after eye contact : Rinse immediately with plenty of water. Take victim to an ophthalmologist if irritation persists.

First aid measures after ingestion : Dilute stomach contents with water or milk. Do NOT induce vomiting. Ask for medical advice.

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

Symptoms/effects : Handle in accordance with good industrial hygiene and safety practice.

Symptoms/effects after skin contact : The melted product adheres to the skin and causes burns.

Symptoms/effects after eye contact : In case of splash from hot solder, irritation to the eyes and if not removed, may result in serious injury. Vapours produced during soldering operations can give slight irritation of the eye tissue.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : D powder. dry sand.

Unsuitable extinguishing media : Do not use water spray.

5.2. Special hazards arising from the substance or mixture

Fire hazard : None.

Reactivity : Upon burning: formation of metallic fumes/vapours.

5.3. Advice for firefighters

Protection during firefighting : Heat resistant gloves. Heat/fire exposure: compressed air/oxygen apparatus.

Other information (fire fighting) : Massive metal and the oxides are not combustible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Not applicable for solder wire.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : If melted: allow liquid to solidify before taking it up.

Other information : Upon burning: formation of metallic fumes/vapours.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Vapours produced during soldering operations.

Precautions for safe handling : Avoid breathing fume. Work under local exhaust/ventilation. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures : Always wash hands and face immediately after handling this product, and once again before leaving the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Maximum storage period : Unlimited

Storage temperature : Store at ambient temperature

Storage area : Store in a dry area.

7.3. Specific end use(s)

REACH Disclaimer:
This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation (cfr Revision date and Version number).

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

tin (7440-31-5)		
EU	IOELV TWA (mg/m³)	2 mg/m³
Belgium	Limit value (mg/m³)	2 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³ (Inhalable fraction)
Netherlands	Grenswaarde TGG 8H (ppm)	2 ppm

silver (7440-22-4)		
EU	IOELV TWA (mg/m³)	0.1 mg/m³
Belgium	Limit value (mg/m³)	0.1 mg/m³
France	VME (mg/m³)	0.1 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	0.1 mg/m³
Netherlands	Grenswaarde TGG 8H (mg/m³)	0.1 mg/m³
United Kingdom	WEL TWA (mg/m³)	0.1 mg/m³

copper (7440-50-8)		
Belgium	Limit value (mg/m³)	0.2 mg/m³ 1 mg/m³
France	VLE (mg/m³)	2 mg/m³
France	VME (mg/m³)	0.2 mg/m³ 1 mg/m³
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³ 1 mg/m³
Netherlands	Grenswaarde TGG 8H (mg/m³)	0.1 mg/m³ (inhaleerbaar)
United Kingdom	WEL TWA (mg/m³)	0.2 mg/m³

8.2. Exposure controls

Personal protective equipment : Safety glasses. Gloves. Heat resistant gloves if handling hot metal.

Hand protection	:	The selected protective gloves must meet the specifications of EU Directive 89/686/EEC and EN 374, derived therefrom.
Eye protection	:	Safety glasses.
Consumer exposure controls	:	The need for personal protective equipment should be based on a workplace risk assessment for the particular use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Solid wire.
Colour	:	Silvery-white to grey.
Odour	:	Odourless.
Odour threshold	:	No data available
pH	:	No data available
Melting point	:	IEC-EN-61190-1-3: Sn96,5Ag3,5: 221°C / Sn99,3Cu0,7: 227°C / Sn96,5Ag3Cu0,5: 217°C-220°C/ Sn95,5Ag3,8Cu0,7: 217°C-226°C/ Sn99Ag0.3Cu0.7: 217°C-227°C/ Sn99Q:226°C-231°C
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	(Flux) 170 °C
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability (solid, gas)	:	Non flammable
Explosive limits	:	No data available
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	Sn96,5Ag3,5: 7.5g/cm³/ Sn99,3Cu0,7: 7.2g/cm³/ Sn96,5Ag3Cu0,5: 7.5g/cm³/ Sn95,5Ag3,8Cu0,7: 7.5g/cm³/Sn99Ag0.3Cu0.7: 7.3g/cm³/Sn99Q: 7.3 g/cm³
Solubility	:	Water: Insoluble
Log Pow	:	No data available
Log Kow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon burning: formation of metallic fumes/vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

High temperatures. Will emit toxic metallic oxides.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Tin, copper and silver compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

tin (7440-31-5)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 4.75 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))

silver (7440-22-4)	
LD50 oral rat	> 5110 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	> 5.16 mg/l air (OECD 436: Acute inhalation toxicity-acute toxic class method, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The solder wire is not biodegradable and may therefore not be disposed in the environment.

Ecology - water : Not biodegradable and may therefore not be disposed in the environment.

tin (7440-31-5)	
LC50 fish 1	> 12.4 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, GLP)
LC50 other aquatic organisms 1	10 mg/l (144 h, GAMMARUS SP.)
EC50 Daphnia 1	1.5 mg/l (504 h, DAPHNIA MAGNA)
EC50 other aquatic organisms 1	21.23 mg/l (96 h, TUBIFEX TUBIFEX)
LC50 fish 2	0.42 mg/l (672 h, SALMO GAIRDNERI/ ONCORHYNCHUS MYKISS, METAL ION)
LC50 other aquatic organisms 2	42 mg/l (48 h, DAPHNIA MAGNA)
EC50 other aquatic organisms 2	140.28 mg/l (48 h, TUBIFEX TUBIFEX, METAL ION)
ErC50 (algae)	> 19.2 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Salt water, Experimental value, GLP)

copper (7440-50-8)	
LC50 fish 1	38.4 - 256.2 µg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Read-across)
EC50 Daphnia 1	3.8 - 118.5 µg/l (US EPA, 48 h, Daphnia magna, Static system, Fresh water, Weight of evidence)

12.2. Persistence and degradability

tin (7440-31-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

silver (7440-22-4)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

silver (7440-22-4)	
BOD (% of ThOD)	Not applicable
copper (7440-50-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

tin (7440-31-5)	
Bioaccumulative potential	Not bioaccumulative.
silver (7440-22-4)	
Bioaccumulative potential	Not bioaccumulative.
copper (7440-50-8)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

tin (7440-31-5)	
Ecology - soil	Adsorbs into the soil.
silver (7440-22-4)	
Ecology - soil	Adsorbs into the soil.
copper (7440-50-8)	
Ecology - soil	Adsorbs into the soil.

12.5. Results of PBT and vPvB assessment

IF14-16, IF14-22 Lead-Free, Halide Free, No-Clean Solder Wire
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
tin (7440-31-5)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
silver (7440-22-4)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
copper (7440-50-8)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Do not discharge into the sewer. Do not discharge into surface water. Recycle/reuse.

Ecology - waste materials : Do not discharge into surface water. Do not discharge into the sewer. Recycle/reuse. LWCA (the Netherlands): KGA category 05.

EURAL code : 10 08 11 - dross and skimmings other than those mentioned in 10 08 10

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : Not applicable

UN-No. (IMDG) : Not applicable

UN-No. (IATA) : Not applicable

UN-No. (ADN) : Not applicable

UN-No. (RID) : Not applicable

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

ADR

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

IMDG

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

IATA

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

ADN

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

RID

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

14.4. Packing group

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

14.5. Environmental hazards

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

14.6. Special precautions for user

- Overland transport

Transport regulations (ADR)	:	Not subject

- Transport by sea

Transport regulations (IMDG)	:	Not subject

- Air transport

Transport regulations (IATA)	:	Not subject

- Inland waterway transport

No data available

- Rail transport

Transport regulations (RID)	:	Not subject

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

Not applicable

Additional rules to be obtained at Interflux® Electronics NV
Remark:
Above mentioned regulations are in force at the moment of publication of this (SDS) safety data sheet. With reference to possible modifications in transport regulations of dangerous goods, we advise you to verify its validity at Interflux® Electronics NV.

SECTION 15: Regulatory information

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

15.1.1. EU Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

Reference to AwSV	:	Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV, Annex 1)
Storage class (LGK)	:	LGK 13 - Non-combustible solids
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	:	Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

15.2. Chemical safety assessment

Chemical safety assessments for substances in this preparation were carried out

SECTION 16: Other information

Other information : Intrastat code 8311 90 00.

Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
H400	Very toxic to aquatic life.

Full text of use descriptors

PC38	Welding and soldering products, flux products
PC7	Base metals and alloys
SU0	Other
SU14	Manufacture of basic metals, including alloys
SU16	Manufacture of computer, electronic and optical products, electrical equipment

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

DISCLAIMER
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