





Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 29.06.2005 Revision date: 30.01.2023 Supersedes version of: 10.12.2019 Version: 10.0

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*
Type of product : Alloy,Mixture
Other means of identification : Sn96,5Ag3,5

Sn99,3Cu0,7

SAC305 | Sn96.5Ag3Cu0.5 SAC387 | Sn95.5Ag3.8Cu0.7

Sn99Ag0,3Cu0,7 Sn99Q | <1% dopants

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

1.2.1. Relevant identified uses

Main use category : Industrial use Industrial/Professional use spec : Industrial Use of the substance/mixture : Solder wire

Function or use category : Welding and soldering products, flux products

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

Full text of use descriptors: see section 16

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Interflux® Electronics nv N.V. Eddastraat, 51 BE– 9042 Gent - BELGIUM – Belgium T +32 9 2514959

reach@interflux.com - www.interflux.com

1.4. Emergency telephone number

Emergency number : Toll Free:+1-800-424-9300 Local: +1-703-527-3887 (CHEMTREC) (USA-Canada-ASIA)

24hr/day 7days/week Chemical Emergency

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité - Universitätsmedizin Berlin CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203	+49 (0) 30 19240	







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Country	Organisation/Company	Address	Emergency number	Comment
Germany	Informationszentrale gegen Vergiftungen Klinik und Poliklinik für Allgemeine Pädiatrie, Zentrum für Kinderheilkunde, Universitätsklinikum Bonn	Gebäude 30, ELKI (Eltern- Kind-Zentrum) Venusberg-Campus 1 53127	+49 (0) 228 19 240	
Germany	Giftnotruf Erfurt Gemeinsames Giftinformationszentrum der Länder Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt und Thüringen, c/o HELIOS Klinikum Erfurt	Nordhäuser Straße 74 99089	+49 (0) 361 730 730	
Germany	Vergiftungs-Informations-Zentrale Universitätsklinikum Freiburg, Zentrum für Kinder- und Jugendmedizin	Breisacher Str. 86b 79110	+49 (0) 761 19240	
Germany	Giftinformationszentrum-Nord der Länder Bremen, Hamburg, Niedersachsen und Schleswig-Holstein (GIZ-Nord) Universitätsmedizin Göttingen - Georg- August-Universität	Robert-Koch Straße 40 37075	+49 (0) 551 19240	
Germany	Giftinformationszentrum der Länder Rheinland-Pfalz und Hessen Klinische Toxikologie, Universitätsmedizin der Johannes Gutenberg-Universität Mainz	Langenbeckstraße 1 Gebäude 601 55131	+49 (0) 6131 19240	
Germany	Giftnotruf München Toxikologische Abteilung der II. Med. Klinik und Poliklinik rechts der Isar der Technischen Universität München	Ismaninger Straße 22 81675	+49 (0) 89 19240	

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

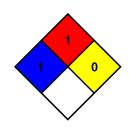
No additional information available

Other information

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.









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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

Other hazards which do not result in classification : The product is not hazardous as sup

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.

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 Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
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, massive form (> 1 mm) (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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

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	95-100	Not classified
silver, massive form (> 1 mm)	CAS N°: 7440-22-4 EC N°: 231-131-3 REACH-no: 01-2119555669-21	0-4	Not classified
Flux incorporated IF 14	-	1,6 - 2,2	Not classified
copper	CAS N°: 7440-50-8 EC N°: 231-159-6 REACH-no: 01-2119480154-42	0-1	Aquatic Acute 1, H400 Aquatic Chronic 2, H411

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







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SECTION 4: First aid measures

4.1. Description of first aid measures

First aid measures after inhalation First aid measures after skin contact

- : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
- : 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 Symptoms/effects after eye contact

- : The melted product adheres to the skin and causes burns.
- : 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 in case of fire : On burning formation of metallic fumes.

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.







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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

8.1.1 National occupational exposure and biological limit values

tin (7440-31-5)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA 2 mg/m³	
silver, massive form (> 1 mm) (7440-22-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA 0,1 mg/m³	

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available







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8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment:

Safety glasses. Gloves. Heat resistant gloves if handling hot metal.

Personal protective equipment symbol(s):





8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Hand protection:

The selected protective gloves must meet the specifications of EU Directive 89/686/EEC and EN 374, derived therefrom

8.2.2.3. Respiratory protection

No additional information available

8.2.2.4. Thermal hazards

Viscosity, kinematic

No additional information available

8.2.3. Environmental exposure controls

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

Colour : Silvery-white to grey.

Appearance : Solid wire.
Odour : Odourless.
Odour threshold : Not 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

: Not available Freezing point Boiling point : Not available Flammability : Non flammable **Explosive limits** : Not applicable Lower explosion limit : Not applicable Upper explosion limit : Not applicable Flash point : (Flux) 170 °C Auto-ignition temperature : Not applicable Decomposition temperature : Not available : Not relevant pH 5 % aq. solution : Not available

: Not applicable







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Solubility : Water: Insoluble
Partition coefficient n-octanol/water (Log Kow) : Not available
Vapour pressure : Not available
Vapour pressure at 50°C : Not available
Density : Not 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

: Not applicable Relative vapour density at 20°C : Not available Particle size Particle size distribution : Not available Particle shape : Not available Particle aspect ratio : Not available Particle aggregation state : Not available : Not available Particle agglomeration state Particle specific surface area : Not available Particle dustiness : Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified







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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, 15 day(s))	
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))	
LC50 Inhalation - Rat	> 4,75 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))	
silver, massive form (> 1 mm) (7440	-22-4)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Powder, Oral, 14 day(s))	
LD50 dermal rat	> 2000 mg/kg (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Nanoform, Dermal, 15 day(s))	
LC50 Inhalation - Rat	> 5,16 mg/l air (OECD 436: Acute inhalation toxicity-acute toxic class method, 4 h, Rat, Male / female, Experimental value, Powder, Inhalation (dust), 14 day(s))	
Skin corrosion/irritation	: Not classified pH: Not relevant	
Serious eye damage/irritation	: Not classified pH: Not relevant	
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	

11.2. Information on other hazards

No additional information available

12.1. Toxicity

SECTION 12: Ecological information

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.

Hazardous to the aquatic environment, short-term : Not classified

Hazardous to the aquatic environment, long-term : Not classified

(chronic)	
tin (7440-31-5)	
EC50 72h - Algae [1]	> 19,2 μg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Salt water, Experimental value, Growth rate)
copper (7440-50-8)	
LC50 - Fish [1]	$38.4-256.2\ \mu\text{g/l}$ (96 h, Pimephales promelas, Flow-through system, Fresh water, Readacross)







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copper (7440-50-8)	
EC50 - Crustacea [1]	$3.8-118.5\ \mu\text{g/I}$ (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	Not applicable. Biodegradability.	
Chemical oxygen demand (COD)	Not applicable	
ThOD	Not applicable	
silver, massive form (> 1 mm) (7440-22-4)		
Persistence and degradability	Biodegradability: not applicable.	
Chemical oxygen demand (COD)	Not applicable	
ThOD	Not applicable	
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 bioaccumulable.		
silver, massive form (> 1 mm) (7440-22-4)		
BCF - Fish [1] 70 (30 day(s), Cyprinus carpio, Fresh water, Literature study)		
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). not bioaccumulable.	
copper (7440-50-8)		
Bioaccumulative potential	Bioaccumulation: not applicable.	

12.4. Mobility in soil

tin (7440-31-5)		
Surface tension	No data have been developed on this subject	
Ecology - soil	Adsorbs into the soil.	
silver, massive form (> 1 mm) (7440-22-4)		
Ecology - soil	No (test)data on mobility of the substance available. Adsorbs into the soil.	







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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

12.6. Endocrine disrupting properties

No additional information available

12.7. 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. $\label{eq:control}$

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 / IMDG / IATA / ADN / RID

14.1. UN number or ID 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







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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. Maritime transport in bulk according to IMO instruments

IBC code : Not applicable.

Remarks : 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 substance(s) listed on REACH Annex XVII (Restriction Conditions) Contains no substance(s) listed on the REACH Candidate List







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Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors) Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain

substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK nwg, Non-hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Storage class (LGK, TRGS 510) : LGK 13 - Non-combustible solids

15.2. Chemical safety assessment

Chemical safety assessments for substances in this preparation were carried out

SECTION 16: Other information

Full text of H- and EUH-statements:	
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

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

Safety Data Sheet (SDS), EU - Interflux

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.

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