



SAFETY DATA SHEET

According to Regulation (EU) 2015/830, amending Annex II of Regulation (EC) No 1907/2006 (REACH)

BROFIL PB WITH FLUX

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Version: 5

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

1.1. Product identifier

Trade name	Regulation	Composition metal nº.	Description
BROFIL 25	UNE.EN ISO 9453	136	S-Sn25 PB75
BROFIL 30	UNE.EN ISO 9453	116	S-Sn30 PB70
BROFIL 40	UNE.EN ISO 9453	114	S-Sn40 PB60
BROFIL 50	UNE.EN ISO 9453	111	S-Sn50 PB50
BROFIL 60	UNE.EN ISO 9453	103	S-Sn60 PB40
BROFIL 63	UNE.EN ISO 9453	102	S-Sn63 PB37

Flux name	Classification and regulation
B2.2	1.1.3.B (EN ISO 29454-1) / ROMO (J-STD-004) EN 61190 1-3:2007
B2.1	1.1.2.B (EN ISO 29454-1) / ROM1 (J-STD-004) EN 61190 1-3:2007
B1.2	1.2.3.B (EN ISO 29454-1) / REM0 (J-STD-004) EN 61190 1-3:2007
B1.1	1.2.2.B (EN ISO 29454-1) / REM1 (J-STD-004) EN 61190 1-3:2007
B3.1	2.1.3.B (EN ISO 29454-1) / ORM1 (J-STD-004) EN 61190 1-3:2007
B3.2	3.1.1.B (EN ISO 29454-1) / INM1 (J-STD-004) EN 61190 1-3:2007

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

Identified uses

: For automated and manual welding. Surface mount components of the electronics industry assembly, where a lead alloy has been specified.

Uses advised against

: Do not use for other purposes other than those described in the product.

1.3. Details of the supplier of the safety data sheet

Supplier

: BROQUETAS, S.L.

Address

: c/ Can Sallarès 12-16
08740 Sant Andreu de la Barca, Barcelona (Spain)

Telephone number

: +34 936401900

E-mail address for a competent person responsible for the safety data sheet:

: broquetas@broquetas.com

1.4. Emergency telephone number

: +34 936401900

Availability

: Monday to Friday from 8:00 to 14:00 h.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) N° 1272/2008 [CLP]	
Hazard Classes/ categories	Hazard statements (H)
Skin Sens. 1 Repr. 1A Lact. STOT RE 1	H317: May cause an allergic skin reaction. H360FD: May damage fertility or the unborn child. H362: May cause harm to breast-fed children. H372: Causes damage to organs through prolonged or repeated exposure.



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2.2. Label elements

According to Regulation (EC) N° 1272/2008 [CLP]		
Signal Word and Pictograms	Hazard statements (H)	Precautionary Statements (P)*
<p><i>Danger</i></p>   <p>GHS07 GHS08</p>	<p>H317: May cause an allergic skin reaction. H360FD: May damage fertility or the unborn child. H362: May cause harm to breast-fed children. H372: Causes damage to organs through prolonged or repeated exposure.</p>	<p>P201 P260 P263 P273 P280 P308+P313 P501</p>

* Full text of the Precautionary Statements (P):

P201: Obtain special instructions before use.
 P260: Do not breathe dust/fume/gas/mist/vapours/ spray.
 P263: Avoid contact during pregnancy/while nursing.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P308+P313: IF exposed or concerned: Get medical advice/attention.
 P501: Dispose of contents/ container to an approved waste disposal plant.

Substances that contribute to the classification of the mixture	: Lead, Rosin.
Supplemental information	: Restricted to professional users.
2.3. Other hazards	
Compliance with PBT/vPvB criteria	: Not applicable.
Other hazards not identified in the classification	: Due to the high temperatures reached when working with this product, burns caused by molten material may occur. It can be harmful and produce health damage by inhalation of vapours emitted during the welding process. It should be used in ventilated areas.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	Content (%)	CAS number	CE number	REACH registration	Classification according Regulation 1272/2008 (CLP)**
Tin (Sn)	25-63	7440-31-5	231-141-8	01-2119486474-28-XXXX	Not classified
Lead (Pb)*	37-75	7439-92-1	231-100-4	01-2119513221-59-XXXX	Repr. 1A H360FD Lact. H362 STOT RE 1 H372
Rosin	~3	8050-09-7	232-475-7	Not applicable (<1T/year)	Skin Sens. 1 H317

*The Lead is included in the Annex VI of Regulation (EC) No 1272/2008 (CLP) as lead metal massives and high purity grade: [particle diameter ≥1mm].

** Full text of the Hazard Statements (H): See Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General notes	: If a health problem is detected, seek medical advice.
In case of inhalation	: Remove victim to fresh air and seek medical advice.



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In case of contact with skin	: Wash skin thoroughly with mild soap and water. Consult a doctor if symptoms persist.
In case of contact with eyes	: Immediately rinse long with water for several minutes holding the eyelids open. Consult an ophthalmologist immediately.
In case of ingestion	: Consult a doctor immediately. Do not induce vomit. If the person is conscious, rinse mouth with water. DO NOT give water to an unconscious person. (Under the right conditions of use, the product is not ingestible).
Recommendations for first aid responders	: Undetermined.
4.2. Most important symptoms and effects, both acute and delayed	: May cause skin irritation, especially if exposure is repeated. May cause irritation by inhalation of vapours during application, if exposure is prolonged and in a small, poorly ventilated space.
4.3. Indication of any immediate medical attention and special treatment needed	: Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media	
Suitable extinguishing media	: Use chemical powder, foam or water fog.
Unsuitable extinguishing media	: Unknown.
5.2. Special Hazards arising from the substance or mixture	
Hazardous combustion products	: Vapours of oxides and fumes of metals.
Other specific hazards	: Smoke released by the combustion of the product may cause damage in the airways.
5.3. Advice for firefighters	: In case of fire, use individual respiratory protection equipment. Firefighters must wear fire resistant protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	: Follow the indications described in section 8.
For emergency responders	: Avoid contact with skin, eyes and clothing. Follow the indications described in section 8.
6.2. Environmental precautions	: Avoid contact with drains and riverbeds.
6.3. Methods and material for containment and cleaning up	: Collect the product mechanically. To completely remove, clean the surface with water.
6.4. Reference to other sections	: For more information, see sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	
Prevention and protection measures	: Handle the product carefully. During the welding process the product attains high temperatures so using suitable globes and eye protection and wearing a mask in poorly ventilated areas is recommended, as it is described in section 8.2.
Advice on general occupational hygiene	: Do not eat, drink or smoke while handling the product. Keep proper hygiene after handling.



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7.2. Conditions for safe storage, including any compatibilities

- Technical measures and storage conditions** : Storage temperatures above 60 ° C should be avoided.
- Containers requirements and storage areas** : Store in tightly closed containers in a dry location.
- Further information for storage** : Keep container tightly closed.

7.3. Specific end use (s)

- : Product for professional use in welding at low temperatures. For the assembly of surface mount components of the electronics industry, where a lead alloy and a low temperature has been specified.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

- Occupational exposure limits** : Data for UK:
Tin, inorganic compounds (CAS 7440-31-5): No data available.
Tin compounds, inorganic, except SnH4 (CAS 7440-31-5): 2 mg/m3 (8 hours); 4 mg/m3 (short-term).
Lead and inorganic compounds (CAS 7439-92-1): 0,15 mg/m3 (8 hours).
- DNELs and PNECs** : Not available.

8.2. Exposure controls

- Appropriate engineering controls** : It is recommended the use in open or well-ventilated areas or the use of forced mechanical extraction.

Individual protection measures, such as personal protective equipment

Eye/face protection

- : Safety goggles to avoid splashes.
PPE: Protection glasses with integrated mount.
Characteristics: 'CE' Category II. Eye protector with integrated mount to use against dust, fumes, fog and vapours.
CEN standards: EN 165, EN 166, EN 167, EN 168
Maintenance: Visibility through lenses should be optimal, so their daily cleaning is required, Protectors should be disinfected periodically following the manufacturer's instructions.
Observations: Indicators of deterioration include: yellow colouring of the lenses, superficial scratching of the lenses, scraping, etc.

Skin protection

Hand protection

- : Use resistance gloves for tiny molten metal splashes.
PPE: Protection gloves against tiny molten metal splashes.
Characteristics: 'CE' Category III.
CEN standards: EN 407: 2004, UNE-EN 12477:2002
Maintenance: They should be stored in a dry place, away from heat sources, and the exposure to sunlight should be avoided as much as possible. Do not perform modifications on the gloves that may alter their resistance, and do not apply any paints, solvents or adhesives.
Observations: Gloves should be of the right size and fit the hand without being too loose or too tight. They should always be used with clean, dry hands.

Others

- : Use appropriate protective clothing.

Respiratory protection

- : Use filter mask P3 BE EN 141 if you work for long periods of time in small, poorly ventilated spaces.
PPE: Filter mask for protection against gases and particles
Characteristics: 'CE' Category III. The mask must have a wide field of vision and anatomically shaped to provide sealing and tightness.
CEN standards: EN 136, EN 140, EN 405
Maintenance: Do not store in locations exposed to high temperatures and damp environments before use. The state of the inhalation and exhalation valves of the face adapter must be specially controlled.
Observations: Read carefully the manufacturer's instructions about the use and maintenance of equipment.



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Environmental exposure controls

: Take into account the usual precautions to protect the environment, see section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	: Dark gray solid.
Odour	: Not significant.
Odour threshold	: Not applicable.
pH	: Not applicable.
Melting point/freezing point	: 183-263°C
Initial boiling point and boiling range	: Not applicable.
Flash point	: Non flammable.
Evaporation rate	: Not applicable.
Flammability (solid, gas)	: Non flammable.
Upper/lower flammability or explosive limits	: Not applicable.
Vapour pressure	: Not applicable.
Vapour density	: Not applicable.
Relative density	: 9.4-11.3 g/cm ³
Solubility(ies)	: Water-insoluble.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not applicable.
Viscosity	: Not applicable.
Explosive properties	: No.
Oxidising properties	: No.

9.2. Other information : No additional information.

SECTION 10: Stability and reactivity

10.1. Reactivity	: Stable under normal conditions (does not react).
10.2. Chemical stability	: Stable under normal conditions.
10.3. Hazardous reactions	: Heating may cause fumes containing chlorides.
10.4. Conditions to avoid	: Storage temperatures above 60 ° C should be avoided.
10.5. Materials to avoid	: Contact with strong acids and bases that may cause exothermic reactions should be avoided.



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10.6. Hazardous decomposition products : Not available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Hazard/Effect class	
Acute toxicity	: <u>Tin (CAS: 7440-31-5):</u> LC50 (Inhalation)> 5 mg/L LD50 (Oral)> 2000 mg/kg LD50 (dermal)>2000 mg/kg <u>Lead (CAS: 7439-92-1):</u> LC50 (Inhalation)>5,05 mg/L LD50 (Oral)> 2000 mg/kg LD50 (dermal)>2000 mg/kg <u>Rosin (CAS: 8050-09-7):</u> LD50 (Oral)> 2000 mg/kg LD50 (dermal)>2000 mg/kg <u>ATEmix Tin-Lead alloy:</u> ATEmix (Inhalation)>5,02 mg/L ATEmix (Oral)>2000 mg/kg ATEmix (dermal)>2000 mg/kg
Skin corrosion/irritation	: Not applicable.
Serious eye damage/irritation	: Not applicable.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not applicable.
Carcinogenicity	: Not applicable.
Reproductive toxicity	: May damage fertility or the unborn child. May cause harm to breast-fed children.
STOT-single exposure	: Not applicable.
STOT-repeated exposure	: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazards	: Not applicable.
Symptoms	: During heating can cause slight eye, nasal and respiratory track irritation.
Chronical effects	: Only after years of constant activity in unfavorable conditions, there may be risk of pulmonary edema.

SECTION 12: Ecological information

12.1. Toxicity information	: No data available.
12.2. Persistence and degradability	: No data available.
12.3. Bioaccumulative potential	: No data available.
12.4. Mobility in soil	: No data available.
12.5. Results PBT and vPvB assessment	: Not applicable.
12.6. Other side effects information	: Other side effects are not known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods	
Product disposal:	: Product waste must be transported to an authorized waste disposal plant. Dispose according to local and national regulations. Do not remove by direct discharge into rivers or sewage system.



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Waste catalogue code: 06 04 05: wastes containing other heavy metals.

Packaging disposal:

: Handle contaminated containers as the product itself.

SECTION 14: Transport information

	ADR/RID	AND/ADNR	IMDG	IATA
14.1. UN number	The product is not classified according to transport agreements.			
14.2. UN proper shipping name				
14.3. Transport hazard class (es)				
14.4. Packing group				
14.5. Environmental hazards				
14.6. Special precautions for user				
Special dispositions				

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code : Not applicable.

SECTION 15: Regulatory information

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

REACH authorizations

: The product does not contain a substance present in the candidate list of SVHC, and in Annex XIV of REACH.

REACH use restrictions

: The product contains Lead, which is a substance that presents a Restriction of Use in the entries No. 30 and 63 of the Annex XVII of REACH.

15.2. Chemical safety assessment

: A chemical safety assessment has not been carried out for the product itself, but for the ingredients: Lead (REACH Registration Number: 01-2119513221-59-XXXX) and Tin (REACH Registration Number: 01-2119486474-28-XXXX).

SECTION 16: Other information

Changes to the previous version

: Changes in sections 2.2, 3.2, 8.1 and 15.2
This SDS replaces version 4.

Abbreviations and acronyms

: SDS: Safety data sheet
PBT: Persistent, bioaccumulative and toxic
vPvB: Very persistent and very bioaccumulative
TLV: Thershold Limit Values
TWA: Time Weighted Average
ACGIH: American Conference of Industrial Hygienists
DNEL: Derived non-effect level
PNEC: Predicted non-effect concentration
SVHC: Substances of Very High Concern
LD50: Median Lethal dose.
LC50: Median Lethal Concentration.
ATEmix: Acute toxicity estimated of the mixture.

Key literature references and sources for data

: Safety data sheet of the components.
<https://echa.europa.eu/>.

Methods used for the purpose of mixture classification according to Regulation 1272/2008 (CLP):

: Calculation performed after the classification of substances in the mixture.



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Hazard statements (H)

- : H317: May cause an allergic skin reaction.
- H360FD: May damage fertility or the unborn child.
- H362: May cause harm to breast-fed children.
- H372: Causes damage to organs through prolonged or repeated exposure.

Advice on any training appropriate for workers:

- : Maintenance and production plant crew has received information and training on the safety instructions in plant and equipment.

NOTES

- : This information is based on the knowledge we have so far. This SDS refers exclusively to this product. All chemical substances in this product have been reported or are exempt from notification under notification to the EC laws. Information in this SDS is based on the available published sources and is believed to be accurate. No warranty, express or implied, is made and our company assumes no liability resulting from the use of this MSDS. The user must determine suitability of this information for his application. The specifications of this safety data sheet describes the safety requirements of our product, this is not a guarantee of characteristics. They are based on current state.