

SAFETY DATA SHEET

According to Regulation (EU) 2020/878, amending Annex II of Regulation (EC) No 1907/2006 (REACH)

BROCLEAN (Gel Flux)

Printing date: 31/03/2023

Version: 3

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

1.1. Product identifier

Trade name	: BROCLEAN
Description	: Gel flux for soldering of copper and copper alloys with tin-based solder alloys.
UFI Code	: KV00-Y06P-N00P-EW35

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

Identified uses	: Soft soldering of copper pipes in heating systems, sanitary systems, and plumbing connections. For consumer and professional use.
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 (España)
Telephone number	: +34 936401900 (Monday to Friday from 8:00 to 14:00h)
E-mail address for a competent person responsible for the safety data sheet:	: broquetas@broquetas.com

1.4. Emergency telephone number

Availability	: +34 915620420. Instituto Nacional de Toxicología y Ciencias Forenses. 24h.
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) N° 1272/2008 [CLP]	
Hazard class and category	Hazard statement (H)
Acute toxicity, oral, 5	H303 May be harmful if swallowed
Skin corrosion/irritation, 1B	H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation, 1	H318 Causes serious eye damage
Specific target organ toxicity, single exposure; Respiratory tract irritation, 3	H335 May cause respiratory irritation
Hazardous to the aquatic environment, acute toxicity, 1	H400 Very toxic to aquatic life
Hazardous to the aquatic environment, chronic toxicity, 1	H410 Very toxic to aquatic life with long lasting effects

2.2. Label elements

Labelling (CLP)

Regulation (EC) No 1272/2008 [CLP]		
Signal Word and Pictograms	Hazard statements (H)	Precautionary Statements (P)*
<p>Danger</p>    <p>GHS05 GHS07 GHS09</p>	<p>H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H335 May cause respiratory irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long-lasting effects.</p>	<p>P260, P264, P280, P301 + P330 + P331, P303 + P361 + P353, P363, P304 + P340, P310, P321, P305 + P351 + P338, P405, P501, P273, P391, P261, P271, P312, P403 + P233, P405</p>

*Full text of the Precautionary Statements (P): See section 16.

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.



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2.3. Other hazards

Compliance with PBT/vPvB criteria : The product does not contain substances classified as PBT or vPvB.

Other hazards not identified in the classification

Risk of burns when touching hot areas during the soldering process. Inhaling the vapours given off by heating the product may cause health problems. Ensure adequate ventilation. The product has no known endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Flux composition:

Chemical name	Content (%)	CAS number	CE number	Classification according to Regulation 1272/2008 (CLP)
Alcohols, C16-18, ethoxylated	15 – 25	68439-49-6	500-212-8	Acute Tox. 4 (Oral), H302, Oral LD50 > 10000 mg/kg Eye Dam. 1, H318 Aquatic Acute 1, H400
Zinc chloride	15 – 25	7646-85-7	231-592-0	Acute Tox. 4 (Oral), H302, Oral LD50 = 1100-1260 mg/kg Skin Corr. 1B, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 STOT SE 3 (Respiratory Tract Irritant), H335 (C ≥ 5%)
Ammonium chloride	1 – 5	12125-02-9	235-186-4	Acute Tox. 4 (Oral), H302, Oral LD50 = 1410 mg/kg Eye Irrit. 2, H319
Ethylene glycol	15 - 25	107-21-1	203-473-3	Acute Tox. 4 (Oral), H302, Oral LD50 = 7712 mg/kg

The product does not contain known nanomaterials.

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 : Move exposed person to fresh air and seek medical advice.

In case of contact with skin : Clean with soap and water. If symptoms persist consult doctor.

In case of contact with eyes : Immediately rinse long with water for several minutes holding the eyelids open for a good cleaning. Consult an ophthalmologist.

In case of ingestion : Seek medical advice. Do not induce vomiting. Give to drink water if the person is conscious. DO NOT give water to an unconscious person (In suitable conditions of use the product is not ingestible).

Recommendations for first aid responders : The protection to first-aid personnel: Should wear the protection equipment of level C to give first aid in the safe area.

4.2. Most important symptoms and effects, both acute and delayed : It can be harmful by inhalation, since when warming up this product, it can emit smoke dangerous for the health if inhaled. Should only be used in well ventilated areas. It can cause eye, skin, mouth and digestive tract irritation.

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 foam resistant to alcohol, carbon dioxide or dry extinguishing agents.

Unsuitable extinguishing media : Do not use high pressure water jet to avoid dispersion of the product.



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5.2. Special Hazards arising from the substance or mixture

Hazardous combustion products : The smoke released by the combustion of the product can cause damage to the respiratory tract.

Other specific hazards : Fumes given off during the welding process can be toxic.

5.3. Advice for firefighters

: In case of fire, use personal protective equipment as required. 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

: Reduce the dust with a water dispersion jet. If the product is discharged into water courses, rivers or sewers and / or vegetation, notify the competent authorities.

6.3. Methods and material for containment and cleaning up

Collect the product with non-combustible absorbent materials (earth, sand, vermiculite, diatomaceous earth, etc.). Pour the product and the absorbent into an appropriate container and properly labelled. The contaminated area must be cleaned immediately with the appropriate tools or utensils. Manage wastes through an authorised waste management entity.

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

: The product may be handled only by appropriately trained personnel and with appropriate Individual protection measures. During the working process the product attains high temperatures so using suitable gloves 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.

7.2. Conditions for safe storage, including any compatibilities

Technical measures and storage conditions

: Not defined.

Containers requirements and storage areas

: Keep away from any acids and oxidants.

Further information for storage

: Keep away from heat or sunlight.

7.3. Specific end use(s)

: Flux for soldering copper alloys with tin alloys.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

: Ammonium Chloride:
TLV-TWA: 10 mg/m³ fumes.
Zinc Chloride:
TLV-TWA: 1 mg/m³ fumes.
Ethylene Glycol:
20 ppm; 52 mg/m² (VLA-ED)

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DNELs and PNECs	: Not available.
8.2. Exposure controls	
Appropriate engineering controls	: Use in opened and/or well ventilated areas. Use preferably in places where a localized extraction system is installed.
Individual protection measures, such as personal protective equipment	
Eye/face protection	: Eye protection: Proper handling may include wearing protective glasses.
Skin protection	
Hand protection	: Skin protection: Only in case of hypersensitivity to the product or allergy to it, it is necessary to use neoprene gloves. Normally the use of the applicator brush prevents skin irritation.
Others	: Use appropriate protective clothing.
Respiratory protection	: Respiratory protection: Use P3 BE EN 141 filter mask if working long periods of time in small and poorly ventilated spaces. It is recommended to use it in open or well ventilated spaces or to use forced mechanical extraction
Environmental exposure controls	: Localized ventilation systems must be equipped with adequate pollution reproduction systems before being released into the atmosphere and authorized in accordance with current national and regional regulations. All waste, as well as water that contains the product, must be collected and not discharged into sewers or watercourses.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties	
Appearance	: Solid gel.
Odour	: Not applicable.
Odour threshold	: Not available / Not applicable.
pH	: 3 - 4.
Melting point	: Not applicable.
Initial boiling point and boiling range	: 350°C.
Flash point	: Non flammable.
Evaporation rate	: Not available / Not applicable.
Flammability (solid, gas)	: Not flammable.
Upper/lower flammability or explosive limits	: Not applicable.
Vapour pressure (20°C)	: Not applicable.
Vapour density	: Not applicable.
Density at (20°C)	: 1,10 g/cm ³ .
Solubility(ies)	: Soluble.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not applicable.



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Decomposition temperature	: Not available / Not applicable.
Viscosity	: Not applicable.
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.
9.2. Other information	: No further relevant information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	: Under normal conditions it is stable and does not react.
10.2. Chemical stability	: Stable under normal conditions of use.
10.3. Hazardous reactions	: Carbon oxide when burning.
10.4. Conditions to avoid	: Avoid temperatures close to the flash point. Do not heat closed containers.
10.5. Materials to avoid	: Keep away from strong oxidants, strong bases and strong acids to avoid exothermic reactions.
10.6. Hazardous decomposition products	: In the event of a fire, nitrogen oxides may be emitted after decomposition.

SECTION 11: Toxicological information

11.1. Information on toxicological effects	
Hazard/Effect class	
Acute toxicity	: During heating it can cause slight irritation to the eyes, nasal mucosa and respiratory tract. May be harmful if swallowed. ATE _{mix} , oral = 3300 mg/kg.
Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: No data available.
Germ cell mutagenicity	: No data available.
Carcinogenicity	: No data available.
Reproductive toxicity	: No data available.
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: No data available.
Aspiration hazards	: May be harmful if swallowed.
Symptoms	: Splashes in the eyes can cause irritation and reversible damages.
Chronical effects	: Repeated or prolonged contact with the product can cause the removal of oil from the skin, leading to non-allergic contact dermatitis and absorption of the product through the skin.
11.2. Information on other hazards	
Endocrine disruptor information	: Contains no known or suspected endocrine disruptor.

SECTION 12: Ecological information

12.1. Toxicity information	: Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.
12.2. Persistence and degradability	: No data available.
12.3. Bioaccumulative potential	: No data available.
12.4. Mobility in soil	: No data available.



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12.5. Results PBT and vPvB assessment : The product does not contain any substance classified as PBT or vPvB.

12.6. Endocrine disrupting properties : Contains no known endocrine disruptor.

12.7. Other side effects : Other side effects are not known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Appropriate methods of waste treatment of both substance or mixtures : 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.

Appropriate methods of waste treatment of contaminated packaging : Handle contaminated containers as the product itself.

SECTION 14: Transport information

	ADR/RID	AND/ADNR	IMDG	IATA
14.1. UN number	1759	1759	1759	1759
14.2. UN proper shipping name	CORROSIVE SOLID, N.O.S (zinc chloride), MIXTURE	CORROSIVE SOLID, N.O.S (zinc chloride), MIXTURE	CORROSIVE SOLID, N.O.S (zinc chloride), MIXTURE	CORROSIVE SOLID, N.O.S (zinc chloride), MIXTURE
14.3. Transport hazard class(es)	8	8	8	8
14.4. Packing group	III	III	III	III
14.5. Environmental hazards	Yes	Yes	Yes	Yes
14.6. Special precautions for user	Read the safety data sheet before handling the product	Read the safety data sheet before handling the product	Read the safety data sheet before handling the product	Read the safety data sheet before handling the product
Special provisions	223, 274	223, 274	223, 274	223, 274

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 has no restriction of use.

Regulation (EC) 2037/2000 on substances that deplete the ozone layer : Not applicable.

15.2. Chemical safety assessment : An evaluation of the product's chemical safety has not been carried out.

SECTION 16: Other information

Changes to the previous version : The format of the SDS has been adapted to the requirements of Regulation (EU) 2020/878, amending Annex II of REACH Regulation (EC) No 1907/2006. Full review of SDS. Changes in sections 1, 2, 3, 11, 12, 14 and 16. This SDS replaces version 2.

Abbreviations and acronyms : SDS: Safety data sheet.
PBT: Persistent, bioaccumulative and toxic.
vPvB: Very persistent and very bioaccumulative.
TLV: Threshold Limit Values.



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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 purposes of classification of the mixture according to Regulation 1272/2008 (CLP)

: Classification of the mixture from the component's classifications.

Full text of hazard statements (H)

: H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long-lasting effects.

Full text of precautionary statements (P)

: P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling, wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P363 Wash contaminated clothing before reuse.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P321 Specific treatment (see supplemental first aid instructions on this label).
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container to an approved waste disposal plant.
P273 Avoid release to the environment.
P391 Collect spillage. Hazardous to the aquatic environment.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P403 + P233 Store in a well-ventilated place. Keep the recipient hermetically sealed.
P405 Store locked up.

Advice on any training appropriate for workers:

: Plant maintenance and production personnel must receive information and training on plant and equipment safety instructions.

NOTES

: This information only refers to the product described in this sheet and may not be valid if used together with other product(s) or in any process. The information presented is based on our most accurate current level of knowledge and is provided in good faith, but its accuracy or reliability cannot be guaranteed or assured. It is a guide for the safe handling, use, processing, storage, transport and disposal of this product and should not be construed as a guarantee or quality specification.