

In accordance with the current legislation on substances and mixtures, in particular Regulation REACH EC/UE No. 1907 of 18/12/2006 and subsequent amendments, and CLP Regulation EC/UE No. 1272 of 16/12/2008 and subsequent amendments, the product subject to this documentation is considered an "article."

Unlike suppliers of substances and mixtures, manufacturers and/or suppliers of "articles" are not required to issue a Safety Data Sheet (SDS)¹.

As a result (Regulation EC 1272/2008), even though the product "Polymer Distilled Bitumen Waterproof Membrane²" is not subject to the SDS requirement, it is still deemed appropriate to provide the following information, developed using the sixteen-point format from Annex II of the REACH Regulation, in accordance with the revision outlined in EU Regulation 2015/830 of May 25, 2015.

1. PRODUCT AND PRODUCER IDENTIFICATION

1.1 PRODUCT NAME: WATERPROOF MEMBRANE

1.2 USE: WATERPROOFING OF STRUCTURES (buildings, green roofs, parking lots, bridges, containment basins, dams, tunnels, etc.)

1.3 MANUFACTURER'S NAME AND ADDRESS: CASALI S.P.A.

Via Zona Ind. C.I.A.F. Castelferretti 60015 Falconara Marittima (ITALY)

Email: info@casaligroup.it

Company phone: +39 (0)71 916209

2. HAZARD IDENTIFICATION

2.1 Under normal usage and application conditions, in the event of a fire/thermal decomposition, hazardous products (CO, CO₂) may be released.

Based on the information received from its suppliers, Casali S.p.A. declares that no substances included in the Candidate List of SVHC (Substances of Very High Concern) are present in concentrations exceeding 0.1% by weight.

2.3 SAFETY RISKS

- Burn risks due to contact with molten material.
- Fire risks due to ignition with open flames of flammable material (HC vapors, etc.).

2.4 ENVIRONMENTAL RISKS

The membranes are made from inert, non-biodegradable materials and therefore persist in the environment for a long time.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 COMPOSITION:

The product is in the form of a membrane packaged in rolls, made from a mixture of distilled bitumen and polyolefinic and/or elastomeric polymers.

3.2 The bitumen, polymers, and substances used are not classified as hazardous according to Regulation 2008/1272 CLP.

¹ Except for articles containing SVHC substances at a concentration greater than 0.1% (w/w), for which safety information must be provided under Article 33 of the REACH Regulation.

² Distilled bitumen is commonly referred to as bitumen with a specific penetration grade that makes it suitable for industrial and road use. From a REACH perspective, this bitumen is identified by EINECS number 232-490-9.

4. FIRST AID MEASURES

4.1 IN CASE OF PROLONGED INHALATION EXPOSURE to fumes and vapors generated during "installation," especially if the operation is conducted in confined or poorly ventilated spaces, irritation of the eyes and respiratory system may occur. In such cases, move the exposed personnel from the workplace, have them inhale fresh air, and consult a doctor.

4.2 IN CASE OF CONTACT WITH THE SKIN from molten material, irrigate with fresh water for a long period; do not attempt to remove the material with solvents or others. Remove clothing in contact with molten material if it is not stuck to the skin, and consult a doctor.

4.3 IN CASE OF CONTACT WITH THE EYES from molten material, immediately and thoroughly irrigate with fresh water. Do not attempt to remove particles from the eyes and consult a doctor. If irritation occurs due to fumes, irrigate thoroughly with fresh water.

IN CASE OF EMERGENCY:

Poison Control Center - Niguarda Hospital – Milan: tel 02.66101029

Poison Control Center - University of Rome - Policlinico Umberto I: tel 06.490663

Poison Control Center - Cardarelli Hospital (c/o Usl 40) Naples: tel 081.5453333

5. FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

In case of fire, use nebulized water extinguishers, carbon dioxide, foam extinguishers, or chemical powders. Do not use water jets.

5.2 PERSONAL PROTECTIVE EQUIPMENT (PPE):

In case of fire, personnel involved in firefighting should be equipped with respirators with UP filters (Universal Protection) to protect against gases and combustion fumes (CO, CO₂, H₂S, SO₂, low boiling point HC, ethylene monomers, medium-high boiling HC). In confined or poorly ventilated environments, personnel should use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Not applicable.

7. STORAGE AND USE

7.1 STORAGE:

Store rolls vertically, protected from sunlight, away from heat sources and electrical installations. Ensure that suitable extinguishing media are available. Material storage in multi-level warehouses should only be carried out under proper packaging conditions, handled by qualified personnel using suitable lifting equipment according to the material's weight, storage height, and proper pallet support. For material handling in construction sites, baskets, closed platforms, or other suitable devices must be used, as specified by the safety plan. This plan must be verified by the customer when requesting crane transport.

Do not stack rolls unless otherwise specified on the packaging.

7.2 USE:

Avoid applying the membrane by heating in confined or poorly ventilated environments without proper ventilation. If necessary, ventilate the area with forced ventilation.

7.3 APPLICATION PROCEDURE

The operation of "laying" the membrane must be carried out according to the technical instructions provided in the "Application Specifications" from the manufacturer, aimed at performing the operation according to the principles of good practice and safety criteria (Annex 1 to this document). In the case of use in confined or poorly ventilated environments, the "laying" process must be carried out while wearing the appropriate PPE (see Section 8) and carefully monitoring the use of open flames.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 EXPOSURE:

Waterproofing operations involving the application of distilled bitumen-polymer membrane by flame heating involve slight dispersion of potentially hazardous substances in the air. In confined or poorly ventilated areas, exposure to toxic and harmful inhalants can reach levels that pose a risk. Forced ventilation is required to ensure adequate air quality and keep exposure below acceptable limits (ACGIH TLV).

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE):

For personnel involved in the application, the following PPE is recommended:

- Hand protection: protective gloves.
- Eye protection: goggles.
- Skin protection: full protective clothing.
- Foot protection: safety shoes.

In case of activities in confined or poorly ventilated environments, it is necessary to ensure forced ventilation (see point 8.1) and protect the respiratory tract with a particulate filter respirator and gas cartridge (protection P3).

8.3 HYGIENE MEASURES

- Wash hands with water and soap before each break and at the end of the work shift.
- Keep work clothes separate from civilian clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

- PHYSICAL FORM: Membrane rolls
- ODOUR: slight bitumen odour
- Ph: not applicable
- BOILING POINT/RANGE: > +470°C ca. (bitumen)
- MELTING POINT/RANGE: > +100°C
- FLASH POINT: > +230°C ca. (bitumen)
- INFIAMMABILITY(solid, gas): Calorific value 9.000 kcal/kg ca.
- AUTOIGNITION TEMPERATURE: > +485°C ca. (bitumen)
- EXPLOSIVE PROPERTIES: NO
- OXIDIZING PROPERTIES: NO
- VAPOUR PRESSURE: not applicable
- DENSITY: 1÷1,5 kg/dm³
- SOLUBILITY IN WATER: NO
- LIPID SOLUBILITY: YES (organic solvents; oils)

10. STABILITY AND REACTIVITY

10.1 STABILITY:

The product is stable under normal temperature and pressure conditions.

10.2 REACTIVITY:

The product is chemically inert.

10.3 INCOMPATIBLE SUBSTANCES:

The product reacts with strong oxidizing agents (ozone, peroxides, etc.), leading to exothermic reactions, particularly when heated.

11. TOXICOLOGICAL INFORMATION

11.1 THE PRODUCT:

The product is a mixture of distilled bitumen, polyolefinic and/or elastomeric polymers, and a reinforcing matrix. It does not contain coal tar or asbestos. The product itself does not pose any risk.

Here is the translation into English:

11.2 EMISSIONS FROM USE

The "installation" of the waterproofing membrane is carried out by laying and applying the individual sheets hot and/or cold. During heating, which must be carried out according to specific "technical procedures" developed by the manufacturer and aimed at performing the operation according to good practice and safety standards, the increase in the temperature of the mixture may cause the emission of thermocracking products of the mixture, vaporization, and thermo-degradation of the distilled bitumen with the formation of gases, vapors, and particulate material. Exposure to these emissions for the personnel involved may cause:

- Eye irritation with possible sensitization (conjunctivitis);
- Skin irritation, with possible sensitization (dermatitis);
- Irritation of the upper respiratory tract.

For workers involved in prolonged use of the product as a waterproofing agent, medical monitoring through medical check-ups is required (D.L. 25/2002 and DLgs 81/2008 and subsequent amendments). Waterproofing operations carried out by applying the distilled bitumen/polymer membrane through heating and flame fusion involve the development and emission of fumes into the surrounding environment, which may contain potentially hazardous substances. However, the levels of exposure to volatile hydrocarbons in the fumes are very limited, well below the hygienic-environmental limits set by current regulations in metropolitan areas (Studies: Proceedings of the Conference on Health and Safety in Waterproofing Works with Bituminous Membranes, Albino December 18, 2009).

12. ECOLOGICAL INFORMATION

Use the product according to good operating practices (see Point 7), avoid dispersion into the environment (see Point 13).

13. CONSIDERATIONS ON DISPOSAL

The product should be considered special non-hazardous waste according to D.Lgs 152/2006 and subsequent amendments and, therefore, can be delivered to an authorized landfill for disposal.

Dispose of the packaging as indicated on the packaging and in accordance with municipal regulations.

14. TRANSPORT INFORMATION

Non-hazardous for transport purposes.

15. REGULATORY INFORMATION

15.1 LABELING:

Symbols: not necessary. Hazard phrases: not necessary.

15.2 Regulation (EU) 2008/1272 CLP:

not applicable.

The information in this sheet is provided based on our current knowledge and may be subject to changes or updates. The product must be stored and used according to hygiene, safety, and good industrial practice standards, following the technical specifications provided by Casali S.p.A and in compliance with applicable laws.

16. OTHER INFORMATION

Among the sources of data used to prepare this safety data sheet:

Istituto Superiore di Sanità – Prot. 30189/TOA6 of October 10, 1997 “Hazard classification of bitumen and tar”

NIOSH Registry of Toxic Effects of Chemical Substances

SAX Dangerous Properties of Industrial Materials

Bertazzi P.A., Foà V., Fustinoni S., “Occupational Exposure to Polycyclic Aromatic Hydrocarbons during Bitumen Application,” University of Milan, Department of Occupational Medicine, Milan, 2005

ACGIH: Threshold Limit Values (TLV) for Chemical Substances (2008)

Proceedings of the Conference on Health and Safety in Waterproofing Works with Bituminous Membranes, Albino, December 18, 2009

ANNEX 1

TECHNICAL SPECIFICATIONS FOR THE APPLICATION OF DISTILLED BITUMEN-POLYMER MEMBRANE

The operation of laying the membrane must be carried out according to the technical instructions provided in this document, aimed at performing the operation according to the principles of good practice and safety criteria.

The application of the membrane must be carried out taking into account specific principles related to the following areas:

I. EXPOSURE CONTROL

- **RESPIRATORY PROTECTION:** Avoid laying the membrane in closed spaces and/or spaces without adequate ventilation. The application of this product indoors must take place in areas equipped with appropriate vapor extraction systems during the heating operations using flame.

In confined spaces with insufficient ventilation, use individual respiratory protection in the form of a mask with an AP-type filter (for protection from organic vapors, dust, fumes, spray painting, protection level P3).

- **HAND PROTECTION:** Use appropriate protective gloves.

- **EYE PROTECTION:** Use safety goggles and face shields.

- **SKIN PROTECTION:** Use suitable protective clothing.

Follow the hygiene and safety regulations as required by current legislation.

II. CONTROL OF LAYING TEMPERATURE

- **TEMPERATURE VERIFICATION:** In the case of flame or hot air application for membranes with a thermofusible film surface, the correct heating temperature is indicated by the complete shrinkage of the film. For talc or sanded surfaces, the discoloration and appearance of a shiny surface signal sufficient heating for surface adhesion.

The correct laying procedure is indicated by the outflow of a stream of molten mixture along the overlap line. The molten mixture stream should not exceed 1-2 cm.

- **FLAME COLORATION:** During application, the flame color should remain blue. Any reddish coloration indicates excessive heating, which must be avoided. Further touch-ups should be avoided as they can damage the mixture and reinforcement, and unnecessarily produce vapor emissions.

- **USE OF A THERMOMETER:** When using molten bitumen, a thermometer should be used to control the temperature of the boiler where the bitumen is melted.

- **CONTROL OF OPEN FLAMES:** The use of an open flame, if left unattended, can pose a fire hazard. Ensure that appropriate fire extinguishing equipment is readily available.

The information contained in this sheet is provided based on the current state of our knowledge and may be subject to changes and/or updates. The product should be stored and used according to hygiene, safety, and good industrial practice regulations, following the technical instructions provided by Casali S.p.A. and in compliance with legal requirements.