

SAFETY INFORMATION DATA SHEET POLYMER DISTILLED BITUMEN WATERPROOFING MEMBRANE

PRELIMINARY REMARKS

In compliance with current legislation on substances and mixtures, especially Regulation REACH (EC) N° 1907/2006 and Regulation CLP (EC) N° 1272/2008, the product subject of this documentation is defined an "article".

Unlike suppliers of substances and mixtures, suppliers of articles are not required to provide its customers standardized information as Safety Data Sheet (SDS)¹.

Consequently (CE 1272/2008 rule) even if the product "Polymer distilled bitumen waterproofing membrane" is not subject to the issuance of Safety Data Sheet, it is considered appropriate, to provide the following safety technical information, in order to allow a correct use

1. PRODUCT AND PRODUCER IDENTIFICATION

1.1. PRODUCT IDENTIFIER: WATERPROOFING MEMBRANE

- 1.2. USE: Waterproofing of structures (i.e: buildings, roof gardens, parkings, bridges, reservoirs, dams, canals, tunnels)

1.3. PRODUCER IDENTIFICATION

NUOVA MERIDIANA SRL

Via di Le Prata, 103 - 50041 Calenzano (FI)

Tel. 055/328041 – Fax 055/300300

info@nuovameridiana.it – www.nuovameridiana.it

Manufacturing works: Via del Bosco, 27 – 60012 Trecastelli (AN)

2. HAZARD IDENTIFICATION

- 2.1. CLASSIFICATION. The product is not classified as hazardous in accordance with the national regulation (D.Lgs. n. 65/03 and subsequent modifications). When applied, rolls are extended on the surface to be protected; the application may be obtained with hot or cold bonding, with care to correct superimposing of side and top junction space for welding.
- 2.2. HEALTH RISK Torching the product (distilled bitumen and polymers) may cause gas and vapour emissions as well as condensation fumes. Therefore there may be some risks due to the inhalation of potentially hazardous substances (fumes and vapours), especially in indoor or poorly ventilated environments.
- 2.3. SAFETY RISK
The molten product may adhere to the skin and may cause burns.
The presence of combustible materials (HC vapours, etc.) may cause fire events.
- 2.4. ENVIRONMENTAL RISKS Membranes may cause long-term adverse effects because their components are not biodegradable.
Waste from application or removal operations of bituminous membranes for waterproofing can be transferred to authorized waste disposal plants pursuant to Legislative Decree 152/2006 and subsequent amendments.

1) with the exception of articles that contain SVHC (Substances of Very High Concern) in a concentration above 0.1% weight by weight (w/w), for which information must be provided in accordance with Article 33 of the REACH Regulation.

¹ Bitumen characterized by a specific degree of penetration that makes it suitable for use in the industrial and road sector is commonly called DISTILLED bitumen. Concerning REACH, this bitumen is identified by EINECS No. 232-490-9.

SAFETY INFORMATION DATA SHEET POLYMER DISTILLED BITUMEN WATERPROOFING MEMBRANE

3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1. COMPOSITION. The product consists in a mixture of distilled bitumen and polyolefin and/or elastomer polymers, natural fillers and additives (if required), manufactured in membrane rolls.
- 3.2. INFORMATION ON INGREDIENTS: Bitumen: reference numbers REACH 01-2119498290-34-xxxx e 01-2119480172-44- xxxx, 01-2119498291-32-xxxx; classification REACH: non-dangerous substance. Polymers: defined "non-dangerous substances" based on REACH Regulation 1907/2006 and subsequent updates.
The product does not contain any hazardous components classifying the membrane as "dangerous" in accordance with the Law Decree n. 65/03 and subsequent modifications and REACH Regulation 1907/2006 and subsequent updates.

4. FIRST AID MEASURES

- 4.1. IN CASE OF LONG-TERM INHALATION of fumes and vapours during the laying, particularly in indoor or poorly ventilated environments, air and respiratory irritation problems may arise. In such cases, move person to fresh air and call for medical assistance.
- 4.2. IN CASE OF SKIN CONTACT with molten material, immediately flush skin with plenty of fresh water. Do not pull solidified product away from the skin by using solvents. Remove contaminated clothing immediately, if not sticking to skin, and seek immediate medical advice.
- 4.3. IN CASE OF EYE CONTACT with molten material, If melt substance has got into eyes, wash out with water for at least 15 minutes, do not try to pull any material particles from eyes and seek immediate medical attention. In case of irritation by fumes wash out with cold water.
- 4.4. IN CASE OF INGESTION: Seek immediate medical attention.

5. FIREFIGHTING MEASURES

- 5.1. EXTINGUISHING MEDIA: CO₂, nebulized water, foam, dry chemical. Do not use direct stream of water to extinguish.
- 5.2. PERSONAL PROTECTION DEVICES: In the event of fire, use supplied air respirators with universal filter U.P. (Universal Protection) to protect the respiratory tract from gas and fumes (CO, CO₂, H₂S, SO₂, poorly hot HC, ethylene monomers, medium-highly hot HC).
In the case of indoor or poorly ventilated environments the personnel involved must be equipped with the breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Not applicable.

7. HANDLING AND STORAGE

- 7.1. STORAGE Protect material from heat and direct sunlight (temperature 0°- 40°C) and keep away from electrical equipment. Keep rolls in a vertical position and do not stack them. For safe storage follow the specific storage recommendations for this product. It is not necessary to take precautionary measures to prevent the formation of static electricity. Keep extinguish media available (Point 5). Do not stack rolls unless specifically indicated on the packaging.

SAFETY INFORMATION DATA SHEET POLYMER DISTILLED BITUMEN WATERPROOFING MEMBRANE

7.2. USE Avoid torching of the membrane in indoor or poorly ventilated environments. Provide appropriate ventilation if needed.

7.3 PRECAUTIONS FOR USE

Membrane applications should follow the "Technical instructions" provided by the manufacturer, according to the principles of good technique and Safety (see ANNEX 1). In case of indoor or poorly ventilated applications, use the Personal Protective Equipment (see Point 8) and use extreme caution with open flames.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. EXPOSURE Torching operations involved in installing bitumen-polymer waterproofing membranes may generate a moderate dispersion of potentially hazardous substances. In the case of installation in confined or poorly ventilated environments, without adequate ventilation, levels of environmental concentrations of dangerous substances could be reached such as to realize a potential risk from inhalation of toxic and harmful substances (see point 3) towards the personnel exposed. Therefore it's necessary to provide appropriate ventilation in order to obtain a sufficient number of air changes such as to maintain an adequate air quality and the environmental concentrations of the products emitted by the operation below their respective exposure limit values (ACGIH T.L.V.)

8.2. PERSONAL PROTECTIVE EQUIPMENT During product applications, the following personal protective equipment is recommended:

- Hand protection: suitable protective gloves; long sleeve shirt, trousers, safety shoes.
- Eye protection: safety glasses
- Skin protection: wear cotton or "flame-retardant" cloths, in particular long-sleeve suits.
- Foot protection: safety shoes

In case of indoor or poorly ventilated indoor applications provide appropriate ventilation (Point 8.1). In case of inadequate ventilation system, use a respiratory protection equipment. The use of particulate filter respirators against solid & liquid particles is recommended (P3 protection).

8.3 HYGIENE MEASURES

- Wash hands before every break and after the work shift.
- Keep work clothes separate from the other clothing

9. PHYSICAL-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/dm ³
- Solubility in water	No
- Lipid solubility	YES (organic solvents; oils)

SAFETY INFORMATION DATA SHEET POLYMER DISTILLED BITUMEN WATERPROOFING MEMBRANE

10. STABILITY AND REACTIVITY

- 10.1 STABILITY The product is stable and is not considered to be reactive under normal temperature and pressure.
- 10.2 REACTIVITY The product is chemically inert.
- 10.3 INCOMPATIBLE SUBSTANCES The product reacts with oxidizing agents, especially under high temperatures, because the product may have exothermal reactions.

11. TOXICOLOGICAL INFORMATION

- 11.1 THE PRODUCT The product consists in a mixture of distilled bitumen and polyolefin and/or elastomer polymers and reinforcement. The product does not contain coal tar and asbestos. The product is not classified as hazardous.
- 11.2 EMISSIONS FROM USE The installation of the waterproofing membrane is carried out by hot and/or cold laying of each sheet. During heating, which must be carried out according to specific "technical procedures" developed by the manufacturer and aimed to carry out the operation according to good technical criteria and in compliance with safety, the increase in the temperature of the compound can cause the emission of thermocracking of the mix, vaporization and thermo degradation of distilled bitumen with the formation of gases, vapors and particulate materials which may cause to exposed personnel:
- eye irritations with possible sensitization (conjunctivitis);
 - skin irritations, with possible sensitization (dermatitis);
 - irritations to the upper respiratory tract.
- For workers involved in the prolonged use of the product used as waterproofing, health checks are required by means of a medical examination (Legislative Decree 25/2002 and Legislative Decree 81/2008 and as amended).
- The waterproofing operations obtained by applying the distilled bitumen / polymer membrane by heating and flame melting, involve the development and emission of fumes into the surrounding environment which may contain potentially dangerous substances. The levels of exposure to volatile hydrocarbons contained in the fumes are however very limited, well below the hygienic-environmental limits, foreseen by the current regulations found in the metropolitan area (Studies: Conference Proceedings on Health and Safety in waterproofing works with membranes bituminous, Albino 18 December 2009).

12. ECOLOGICAL INFORMATION

Use the product according to properly (see Point 7). Avoid disposal in the environment (see Point 13).

13. DISPOSAL CONSIDERATIONS

The product is classified as non hazardous special waste in accordance with national regulations (D.Lgs 152/2006 and subsequent modifications)

The product must be transferred to authorized waste treatment plants, using the following codes connected with the activity that generating the waste

EER code 17 03 02: "bituminous mixtures other than those mentioned in 17 03 01"

EER code 17 06 04: "insulating materials other than those mentioned in 17 06 01 and 17 06 03",

EER code 17 09 04: "mixed construction or demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03".

SAFETY INFORMATION DATA SHEET POLYMER DISTILLED BITUMEN WATERPROOFING MEMBRANE

The coding of the waste is always a manufacturer's responsibility, as well as the correct identification of the authorized landfill of the waste treatment plant to which the waste should be transferred.

The membranes do not contain tar, asbestos and oxidized bitumen.

14. TRANSPORT INFORMATION

No special transportation or shipping requirements.

15. REGULATORY INFORMATION

- 15.1 LABELLING: H- Phrases (or hazard statements) not applicable
P- Phrases (or precautionary statements) not applicable
- 15.2 EUROPEAN REGULATION: Directive 67/548/CEE, Directive 1999/45/CE, Directive 91/155/CEE and subsequent modifications and integrations). Directive 92/32/CEE, Directive 93/67/CEE Regulation 793/93, Regulation 1488/94, Directive 98/24/CE, Directive 2001/60/CE, Directive 2004/73/CEE, Regulation (CE) n. 1907/2006 (REACH), Directive 2008/98/CE, Regulation EU 830/2015, May 20th, 2015, Regulation EU 997/2018, July 5th 2018
- 15.3 ITALIAN REGULATION: D.Lgs. 14 marzo 2003, n. 65; DPR 9 giugno 1975 n. 482, DPR 13 aprile 1994, n. 336, D.Lgs. 2 febbraio 2002 n. 25, D.Lgs. 3 febbraio 1997 n. 52; D.Lgs n° 285/98; D.lgs 152/2006, D.Lgs. n. 81/2008; D.lgs. n. 106/2009 and subsequent modifications.

This safety Information sheet complies with Annex II of the Regulation (EC) No 1907/2006 modified by REGULATION UE No 830/2015, May 20th, 2015

16. OTHER INFORMATION

References:

- ✓ Istituto Superiore di Sanità – Prot. 30189/TOA6 del 10 ottobre 1997 “Classificazione di pericolosità del bitume e del catrame”
- ✓ NIOSH Registry of toxic effects of chemical substances SAX Dangerous Properties of industrial materials.
- ✓ Bertazzi P.A., Foà V., Fustinoni S., “Esposizione professionale a idrocarburi policiclici aromatici durante la stesura bituminosa”, Università degli Studi di Milano, Dipartimento di Medicina del Lavoro, Milano, 2005.
- ✓ ACGIH: Threshold Limit Values (TLV) for chemical substances (2008).
- ✓ Lombardy region: Atti del Convegno su Salute e sicurezza nelle opere di impermeabilizzazione con membrane bituminose, Albino 18 dicembre 2009)
- ✓ CER Codes Building Div. ASSIMPREDILANCE, Milan

The information contained herein is provided in the present state of our knowledge and may be subject to change and/or upgrades. The product must be stored and used in accordance with the rules of hygiene, safety and good industrial practice, according to the technical guidance provided by NUOVA MERIDIANA SRL and in accordance with local and European regulations.

SAFETY INFORMATION DATA SHEET POLYMER DISTILLED BITUMEN WATERPROOFING MEMBRANE

ANNEX I TECHNICAL SPECIFICATION CONCERNING MODIFIED BITUMINOUS MEMBRANES APPLICATION

Membrane's application must be performed according to the technical indications in this document and aimed at carrying out the operation according to the principles of good technique and safety criteria. The application of the membrane must be carried out taking into account specific principles referred to the following areas:

1. EXPOSURE CONTROL

- ✓ **PROTECTION OF RESPIRATORY EQUIPMENT:** avoid working in closed rooms and / or without adequate ventilation: the application of this product indoors must take place in premises equipped with adequate systems for extraction of the vapours generated during the heating operations with the use of the flame.
In case of confined spaces with insufficient ventilation, use individual respiratory protection consisting of a mask with an AP type filter (for protection against organic vapours, dusts and fumes, spray painting, protection level P3).
- ✓ **HAND PROTECTION:** use special protective gloves.
- ✓ **EYE PROTECTION:** safety glasses and face shields.
- ✓ **SKIN PROTECTION:** wear cotton or "flame-retardant" cloths, in particular long-sleeve suits.
- ✓ **FOOT PROTECTION:** safety shoes

Implement the health and safety workers standards provided by current legislation.

2. INSTALLATION TEMPERATURE CONTROL

- ✓ **TEMPERATURE CHECKING:** in case of flame or hot air laying for membranes with face/s covered with hot melt film, the correct heating temperature is highlighted by the complete shrinkage of the same; in case of talc or sanded surfaces, the blackening and the appearance of a shiny surface indicates a sufficient heating for the adhesion of the surfaces.
- ✓ The correct laying procedure is indicated by the width of a stream of molten mixture along the overlap line. The width of molten mixture must not exceed $1 \div 2$ cm.
- ✓ **COLOR OF THE FLAME:** During the laying, the colour of the flame must remain blue, any reddish colorations are indication of excessive heating that must be avoided. Further rework should be avoided as they are harmful for the mixture and for the reinforcement and produce vapors emissions in vain.
- ✓ **USE OF THE THERMOMETER:** In the case of melted bitumen laying the use of thermometer allows to control the temperature of the boiler where the bitumen is melted.
- ✓ **CHECKING THE FREE FLAMES:** The use of the free flame, if unattended, can constitute a fire hazard. Keep available adequate fire fighting systems.