SAFETY DATA SHEET

SBS MODIFIED BITUMEN WATERPROOFING MEMBRANE

SECTION I: IDENTIFICATION


Use: Membranes are used for all types of roofing needs, air barrier and waterproofing protection.

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In case of emergency:
Poison Information Centre: 13 11 26

SECTION II: HAZARD(S) IDENTIFICATION

PRODUCT NOT CONSIDERED A HAZARDOUS CHEMICAL OR DANGEROUS GOOD, according to the Model WHS Regulations and the ADG Code.

Bitumen membrane. Asphalt odour. Under normal use, this product is not expected to create any health or environmental hazard. Inhalation of dust or of asphalt fumes can cause a respiratory irritation and/or congestion.

SECTION III: COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS #</th>
<th>% WEIGHT</th>
<th>TLV-TWA</th>
<th>TLV-STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitumen</td>
<td>8052-42-4</td>
<td>30-70</td>
<td>0.5 mg/m³</td>
<td>Not established</td>
</tr>
</tbody>
</table>

Self-adhesive membranes contain:

- Highly hydrotreated naphthenic oil
- Calcium Carbonate
- Styrene butadiene copolymer

FR products contain:

- Calcium borate
- Antimony Trioxide
- Decabromodiphenyl Oxide

FR Plus products contain:

Some products may contain fibre glass, polyester or a mix of glass grid and polyester.

Some membranes are protected by sand, talc, mineral granule, silicone paper, polyethylene or polypropylene film, aluminium, copper or stainless steel foil.

1. The exposure to the product above the limits of exposure is not likely to occur considering its form (incorporated in the mixture) and the provided use. The limit of exposure is given for reference only.
2. A proportion of crystalline silica can be present in the sand sprinkled on the top of some membranes. The crystalline silica contained in the sand is not likely to be found in the ambient air in concentration above the limit of exposure since the sand adheres to the surface of the membrane.
SKIN CONTACT
The product can cause a mechanical irritation of the skin because of its rough surface. If the membrane is torch-applied, asphalt fumes can cause skin irritation. The asphalt fumes can cause an irritation of the skin. The contact with this product at high temperature can cause thermal burns.

EYE CONTACT
The product is not likely to cause effects to the eyes. If the membrane is torch-applied, asphalt fumes can be emitted of the product and cause irritations, redness and conjunctivitis to the eyes. The contact with this product at high temperature can cause thermal burns.

INHALATION
The product is not likely to cause effects on the respiratory system. If the membrane is torch-applied, asphalt fumes can be emitted of the product and cause irritations to the nose, the throat and the respiratory tracts, tiredness, headaches, dizziness, nausea and insomnia.

INGESTION
Exposure is not likely to occur by this route of entry under normal use of the product.

SKIN CONTACT
The repeated or prolonged contact can cause irritation. If the membrane is torch-applied, asphalt fumes can be emitted. The long-term exposure to the asphalt fumes can cause changes of the pigmentation of the skin which can be worsened by the exposure to the sun. (1)

INHALATION
If the membrane is torch-applied, asphalt fumes can be inhaled. No data on chronic effects of the exposure to asphalt fumes on the lungs.

CARCINOGENICITY
Due to the product form, exposure to hazardous dusts or fumes is not expected to occur. Information on carcinogenicity is given for reference only. This product is not classifiable as a carcinogen.

Asphalt:
According to the International Agency for Research on Cancer (IARC): not classifiable as to its carcinogenicity to humans. Epidemiological studies of roofers have generally demonstrated an excess of lung cancer in these workers. However, it is unclear to what extent these cancers may be attributable to asphalt exposures during roofing operations, since in the past, roofers have been exposed to coal tar and asbestos, which are known human lung carcinogens. Trace amounts of polynuclear aromatic hydrocarbons (PAHs) may be present in some asphalts and can be released upon excessive heating. Some of these PAHs have been identified as having the potential to induce carcinogenic and reproductive health effects. (2)

Crystalline Silica:
Breathable crystalline silica from sand is not expected to be released, sand is adhered to product. According to IARC, crystalline silica is carcinogenic for human by inhalation. (3)

Fibreglass Filament:
Fibreglass is not expected to be released. In 2001, IARC classified fibreglass as Group 3 “not classifiable as to its carcinogenicity to humans”. The American Conference of Governmental Industrial Hygienists (ACGIH) and the National Toxicology Program (NTP) classify the product in Group 2B (possibly carcinogenic to humans) based on studies in which animals were injected with large quantities of fibreglass.

Decabromodiphenyl Oxide:
According to IARC: Group 3 (limited evidence for carcinogenicity in experimental animals and no human data). According to NTP: not listed as a carcinogen. (1)

Antimony Trioxide:
According to IARC: Group 2B (possibly carcinogenic to humans). (1) No information available about the other products.

TERATOGENICITY, EMBRIOTOXICITY, FETOTOXICITY
No information available.

REPRODUCTIVE TOXICITY
No information available.

MUTAGENICITY
No information available.

TOXICOLOGICALLY SYNERGISTIC MATERIALS
No information available.

POTENTIAL ACCUMULATION
No information available.
FIRE FIGHTING INSTRUCTIONS
Evacuate the area. Wear self-contained breathing apparatus and appropriate protective clothing in accordance with standards. Approach fire from upwind and fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Always stay away from the containers at the time of the fire considering the high risk of explosion. Move the rolls of membrane from fire area if it can be done without risk. Cool the rolls of membrane with flooding quantities of water until well after fire is out.

SECTION VI: ACCIDENTAL RELEASE MEASURES
RELEASE OR SPILL
If hot material is spilled, allow enough time to cool completely and remove to a container for disposal. Wear appropriate breathing apparatus (if applicable) and protective clothing. Notify appropriate environmental agencies. Wash spill area with soap and water. Dispose of this material according to local environmental regulations.

SECTION VII: HANDLING AND STORAGE
HANDLING
Soprema's products must be applied by qualified applicators who have received an adequate training, for the prevention and the protection (in particular for the use of the extinguishers) against accidents caused by use of combustible or flammable materials, of liquefied propane gas, open flame, and their material of installation. The present recommendations must be imperatively related to the knowledge of the employees before the application of the products to the building site. Check the construction and the composition of the systems of roof and the walls before welding. Ensure of the cleanliness of the places (debris).

Precautions of the use of the torch: Use only proper torching equipment in perfect working order. Never modify torching equipment. Use only proper hoses suited for propane gas of less than 15 m (50'). Verify and tighten all the connections before the use of the equipment. Do not light the torch if a propane odour is present. Never seek a leak with a flame. Use a torch whose gas output is adjustable with stopping device. Follow the specifications, notices and documentsations of the manufacturers.

STORAGE
Flashings must be stored in such a way to prevent any ceasing, twisting, scratches and other damages of the roof. The materials must be protected adequately and stored permanently away from flames or welding sparks, protected from bad weather and any harmful substances. Store self-adhesive membranes away from the sun. Store in areas/building designed to comply with appropriate dangerous goods regulations and Australian Standards.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION
HANDS: Wear resistant gloves in accordance with AS 2161.10.1 and AS 2161.1.
RESPIRATORY: If the TLV for dust is exceeded, if use is performed in a poorly ventilated confined area, use an approved respirator in accordance with AS 1716 & 1715.
EYES: Wear safety goggles in accordance with AS 1336.
OTHERS: Eye bath and safety shower.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES
PHYSICAL STATE: Solid
ODOUR AND APPEARANCE: Black membrane with asphalt odour

ODOUR THRESHOLD: Not available
VAPOUR PRESSURE (20°C): Not applicable
VAPOUR DENSITY (air = 1): Not applicable
EVAPORATION RATE (Butyl acetate = 1): Not applicable
BOILING POINT (760 mm Hg): Not applicable
FREEZING POINT: Not applicable
SPECIFIC GRAVITY (H2O = 1): Variable
SOLUBILITY IN WATER (20°C): None
VOLATIL ORGANIC COMPOUND CONTENT (V.O.C.): Not measurable (0 g/L)
VISCOSITY: Not applicable

SECTION X: STABILITY AND REACTIVITY
STABILITY: This material is stable.
CONDITIONS OF REACTIVITY: Avoid excessive heat.
INCOMPATIBILITY: Acid and strong basis and organic solvents and greasy substances.
HAZARDOUS DECOMPOSITION PRODUCTS: None identified.
HAZARDOUS POLYMERISATION: None.

SECTION XI: TOXICOLOGICAL INFORMATION
TOXICOLOGICAL DATA
Antimony Trioxide: (1)
LD50 (oral, rat): > 20 000 mg/kg
Decabromodiphenyl Oxide: (1)
LC50 (rat): > 50 mg/kg
LD50 (oral, rat): > 5 000 mg/kg
LD50 (dermal, rabbit): > 2 000 mg/kg

No information available on the other products.

Effects of Short-Term (Acute) Exposure
No information available.

Effects of Long-Term (Chronic) Exposure
CARCINOGENICITY
Asphalt:
Data from experimental studies in animals and cultured mammalian cells indicate that laboratory-generated roofing asphalt fume condensates are genotoxic and cause skin tumours. (2)
Crystalline Silica:
Several studies have shown an increased incidence of lung tumours in rats exposed to quartz by inhalation for up to 2 years. IARC has determined that there is sufficient evidence that quartz is carcinogenic to experimental animals. (3)
Antimony Trioxide:
USEPA and CalEPA concluded that the studies done on this product are inadequate for use in quantitative cancer risk assessment. (1)
Highly Hydrotreated Naphthenic Oil:
No study on the human and the animals made it possible to classify naphthenic oils highly hydrotreated as carcinogenic (IARC, 1984). (1)

No information available about the other products.

REPRODUCTIVE EFFECTS
No information available.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY
No information available.

MUTAGENICITY
Crystalline Silica:
None according to the available information.

No information available about the other products.

SYNERGISTIC MATERIALS
Tobacco smoke increases the effects of silica dust on respiratory system. Simultaneous exposure to known carcinogens as benzo (a), pyrene, can increase the carcinogenicity of crystalline silica.
SECTION XII: ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS
No data.

BIODEGRADABILITY
This product is not biodegradable. No possible bioaccumulation and unlikely bioconcentration in the food chain.

SECTION XIII: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
This product is not hazardous waste. Consult local, provincial, territory or state authorities to know disposal methods.

SECTION XIV: TRANSPORT INFORMATION

This product is not regulated under the ADG Code, IMDG Code and IATA Code.

SECTION XV: REGULATORY INFORMATION

AICS: All the ingredients of this product are on the Australian Inventory of Chemical Substances.

SECTION XVI: OTHER INFORMATION

Glossary:
ACGIH: American Conference of Governmental Industrial Hygienists
ADG: Australian Dangerous Goods
CAS: Chemical Abstract Services
GHS: Globally Harmonized System
IARC: International Agency for Research on Cancer
LD₅₀/LC₅₀: Less high lethal dose and lethal concentration published
NIOSH: National Institute for Occupational Safety and Health
TLV-TWA: Threshold Limit Value – Time-Weighted Average
WHS: Work Health and Safety (Australia)

References:
(1) Safety Data Sheet from the supplier

Code of SDS: CA U DRU SS FS 044
For information: +61 2 8051 3153

Update justification:
• Australian version.

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