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MATERIAL SAFETY DATA SHEET

MSDS 346

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1. Product and Company Identification

- 1.1 PRODUCT NAME:** DUO HT 4 NO FLAME
- 1.2 USE OF PRODUCT** Flexible, waterproof membrane. Ideal for the waterproofing of roofs, floors, terraces etc.
- 1.3 SUPPLIER:** Equus Industries Ltd
25 Nicholas Drive
Dandenong
Victoria, 3175
Telephone: +61 3 9706 6226
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- 1.4 EMERGENCY CONTACT:** **Poison Information Centre**
Telephone: 131126

Information about Safety Data Sheet: Telephone: +61 3 9706 6226 8:00am – 5:00pm Mon - Fri

2. Hazards Identification

- 2.1 Classification:**
This product is non-hazardous and a non-dangerous good.
- 2.2 Risk/Safety Phrases:**
Not applicable.
- The full text of each R & S phrases are listed in Section 16.

3. Composition/Information on Ingredients

- 3.1 Chemical Characterization (Preparation):**
Duo HT 4 No Flame is a flexible waterproof membrane. The upper coating consists of a mixture of penetration bitumen modified with Amorphous Poly Alpha Olefins (APAO). The undercoating consists of a mixture of penetration bitumen, modified with Styrene-Butadine-Styrene (SBS). This membrane is reinforced with a thermally bounded layer of non-woven polyester, reinforced with a fibreglass mesh. The upper surface is finished with colourful slates, and the under surface is finished with polypropylene fleece. The membrane is installed by means of Duo Cold Glue.
- 3.2 Hazardous Ingredients:**
Not Applicable.

CAS NO.	COMPONENT	CONCENTRATION %	CLASSIFICATION



- 3.3 Only ingredients, additives and impurities which are classified and contribute to the classification of the product are included in this section.

4. First Aid Measures

The data in this section relates to risks and emissions encountered during the application process of this product.

4.1 After Inhalation:

Remove person to fresh air.

4.2 After Skin Contact:

If hot bitumen strikes the skin, drench or immerse the area in water (preferably cold running water). If available, apply ice water or ice packs to the area. (Do not use iced water or cold packs if the burned area covers more than 10% of the body, as this may contribute to shock). Alternatively apply cold wet towels to the burnt area and change frequently to maintain cooling. Cooling should be maintained for no longer than 30 minutes. When hot bitumen completely encircles a limb, (this is an unlikely situation when applying product) it may have a tourniquet effect and should be split as it cools. Once the bitumen cools it will do no further harm and in fact provides a sterile covering over a burnt area. Obtain medical attention immediately.

4.3 After Eye Contact:

Flush immediately with copious amounts of running water, while holding the eyelids open, for at least 15 minutes. No attempt should be made to remove the bitumen. Obtain medical attention immediately.

4.4 After Ingestion:

Flush mouth etc. out with copious amounts of water. Do not induce vomiting. Give a glass of water. Obtain medical attention immediately.

4.5 Advice To Doctor:

Aspiration: Low grade chemical pneumonitis may occur.

Inhalation: Moderate irritation of nasal and upper respiratory tract from the vapours of hot bitumen.

Burns: No attempt should be made to remove the bitumen (it acts as a sterile dressing). Cover the bitumen with tulle gras and leave for two days when any detached bitumen can be removed. Re-dress and leave for a further week. If necessary refer to a burns unit.

5. Fire Fighting Measures

5.1 Suitable Extinguishing Media:

Use dry chemical, foam or carbon dioxide to fight fires. Use water spray to cool fire exposed surfaces and to protect personnel.

5.2 Protective Equipment:

Wear self contained breathing apparatus and protective suit.

5.3 Specific Hazards:

At elevated temperatures bitumen will react violently with water.

5.4 Combustion Products:

Carbon monoxide, carbon dioxide, fumes and dense black smoke.



6. Accidental Release Measures

6.1 Preliminary Action and Precautions:

- 6.1.1 Use personal protective equipment.
- 6.1.2 Dispose of material at an approved disposal site or facility and assure conformity with applicable disposal regulations. Non hazardous solid waste.

7. Handling and Storage

The data in section 7.1 relates to risks and emissions encountered during the application process of this product.

7.1 Handling:

- 7.1.1 Avoid contact with eyes, skin and clothing.
- 7.1.2 Wash hands thoroughly after handling.
- 7.1.3 Avoid inhalation of fumes or vapours.
- 7.1.4 Contaminated clothing should be removed and laundered before re-use.
- 7.1.5 Protective clothing should be worn at all times. (See Section 8).
- 7.1.6 When handling hot bitumen always provide adequate ventilation.

7.2 Storage:

- 7.2.1 Store under cover.
- 7.2.2 Rolls must be kept dry at all times.
- 7.2.3 Store rolls upright in direction indicated on label.
- 7.2.4 Store away from petrochemicals.
- 7.2.5 Store away from water (at elevated temperatures bitumen will react violently).

8. Exposure Controls and Personal Protection Equipment

The data in this section relates to risks and emissions encountered during the application process of this product.

8.1 Exposure Limits:

None assigned. The ACGIH TWA TLV for bitumen fumes is 5 mg/m³ of total particulate matter. Under normal conditions the TLV is unlikely to be exceeded.

8.2 Exposure Controls:



8.2.1 Exposure Controls in the Work Place:

When handling hot bitumen always provide adequate ventilation. In most application sites natural ventilation is satisfactory but in confined areas mechanical ventilation may be necessary.

8.2.2 Personal Protection Equipment:

Respiratory Protection – Not necessary under normal well ventilated conditions. In situations where inhalation risk of over exposure exists, (due to high vapour levels) wear (SAA) approved respirator (suitable for organic vapours). Correct fit is essential to obtain adequate protection.

Hand Protection – Gauntlet style leather gloves.

Eye Protection – Clear face shield is advisable.

Body Protection - Protective clothing should be worn at all times.

1. Leather boots – rubber soled.
2. Long trousers
3. Longed sleeved shirt.

8.2.3 Further Information:

Ideally cold running water should be easily and quickly accessible from the working area, in case of bitumen burns. If not, at least two 20 litre buckets of cold water must be provided. Although product is non flammable, it is combustible. It is good practice to have a carbon dioxide or dry chemical fire extinguisher located close at hand when using flame torches.

9. Physical and Chemical Properties

9.1 General Information:

Physical State/Form	Black solid at 20 ⁰ C
Odour	Slight
Vapour Pressure	Negligible at 20 ⁰ C
Water Solubility/Miscibility	Not soluble, partially soluble in petroleum solvents.
Specific Gravity	From 950 to 1500kg/m ³ at 20 ⁰ C

10. Stability and Reaction

10.1 General Information:

This product is stable and no hazardous reactions are known.

10.2 Conditions to Avoid:

There are no known conditions which should be avoided.

10.3 Material to Avoid:

Attacked by petrochemicals, although not a dangerous reaction. At elevated temperatures bitumen will react violently with water.

10.4 Hazardous Decomposition Products:

None expected when material properly handled and stored. For thermal decomposition see Section 5.



11. Toxicological Information

11.1 General Information:

During the application of this product (i.e. gas flame torching) the hazard of small amounts of hot bituminous material and vapours exists. The following health effects refer to this hazard. For further information on bitumen see MSDS on Floatine bitumen.

11.2 Skin Contact:

Will cause severe burns.

11.3 Eye Contact:

Will cause severe burning to the eyes.

11.4 Ingestion:

Ingestion is extremely unlikely and the major hazard will result from burning due to the hot material.

11.5 Inhalation:

Slight toxicity. May cause irritation of the nose and throat.

11.6 Chronic Exposure effects of Bitumen:

It is possible that vapour or smoke emitted during the installation phase where the underside of the membrane is heated could be inhaled. To our knowledge, during animal studies, inhalation of this vapour and smoke did not cause malignant tumours in the respiratory system. Among humans there has been no reported increase in the frequency of lung cancer when working with these products. Nevertheless, it is good practice to avoid breathing the vapours and smoke which may be emitted when these products are heated.

12. Ecological Information

12.1 Environment Protection:

Prevent from entering sewers, drains and waterways.

12.2 Ecotoxicity:

No data available.

12.3 Persistence and degradability:

No data available.

12.4 Bioaccumulative Potential:

No data available.

13. Disposal Consideration

13.1 Material

Dispose of according to regulations by incineration in a special waster incinerator or landfill at a permitted facility in accordance with local/national regulation.



14. Transport Information

Rolls must be transported vertically.

14.1 Land Transport:

Road: Not regulated (not dangerous for transport)

Rail: Not regulated (not dangerous for transport)

14.2 **Sea Transport:** (IMO-IMDG) Not regulated (not dangerous for transport)

14.3 **Air Transport:** (IATA-ICAO) Not regulated (not dangerous for transport)

14.4 **Postal and Courier Service:** Permitted.

15. Regulatory Information

This product is non hazardous.

16. Other Information

16.1 Full Text of R-Phrases Contained in Section 2:

Not applicable.

16.2 Full Text of S-Phrases Contained in Section 2:

Not applicable.

16.3 The information contained in this Data Sheet relates only to the specific material identified. Equus Industries Ltd believes the information to be accurate and reliable as at the date of this Data Sheet. No Warranty, Guarantee or representation is expressed or implied by the Company as to the absolute correctness or completeness of any representation contained in this Data and assumes no legal responsibility in connection therewith. It can not be assumed that all acceptable safety measures are contained in this Data Sheet, or that additional measures may not be required under particular or exceptional circumstances or conditions.