



AQUA-SAC®



AQUA-SAC® S.O.S. Bag **Patent Number: GB2438613**

Description:

The AQUA-SAC® S.O.S. Bag is a durable jute sack containing a superabsorbent polymer (SAP) sealed within a non-woven inner bag. Upon contact with water, the bag self-inflates to over 30 times its original size in just 3-5 minutes. After inflation, it can be used to build flood barriers or dams. The AQUA-SAC® S.O.S. Bag is supplied in protective packaging and has a shelf life of 5 years under dry storage conditions.

Specifications:

- **Dry Bag Dimensions:** 60 cm x 37 cm
- **Dry Weight (As Supplied):** 0.4 kg
- **Inflated Dimensions:** 54 cm x 31 cm
- **Height After Inflation:** 10.5 cm
- **Weight After Inflation (In Fresh Water):** 13 kg

Applications:

The AQUA-SAC® S.O.S. Bag is designed to function like a traditional sandbag but offers greater ease of use and lighter weight. It can be used in emergency flood situations, forming barriers to control water flow. The bags are especially effective in locations requiring rapid deployment, making them an essential tool for flood management.

Environmental Considerations:

The AQUA-SAC® S.O.S. Bag consists of three main components: a biodegradable jute sack, a non-biodegradable non-woven inner bag, and SAP. The jute is biodegradable, while the SAP, used in products like baby nappies, is environmentally friendly, non-toxic, and helps improve moisture retention in soil. SAP is inert in landfills and can be broken down by UV rays or microorganisms. It does not negatively impact wastewater treatment plants.

Health and Safety:

The AQUA-SAC® S.O.S. Bag is not considered hazardous. The superabsorbent polymer (SAP) within the bags is generally safe, though it may present a slight risk if dust is inhaled, or if it comes into contact with wet surfaces, as it may cause slipperiness. The SAP dust may also irritate the eyes and skin. It is recommended to wear protective goggles during handling and to remove any SAP dust with water and soap from the skin.

Disposal:

SAP is a non-hazardous waste suitable for disposal in an approved solid waste landfill or incineration plant, in accordance with local regulations. Therefore, unused (dry) and used (wet) S.O.S. Bags can be sent to landfill or incineration.

Another disposal option for limited numbers of AQUA-SAC® S.O.S. Bags is "greening." This involves burying bags under a tree during planting to provide a water reservoir. If greening is impractical, the bags can be cut open to remove the SAP, which can be dug into soil to improve moisture retention.

**Fire Hazards:**

No recognized fire hazards are associated with the AQUA-SAC® S.O.S. Bag or SAP.

Hazardous Combustion Products:

None known

Extinguishing Media:

Dry chemical, foam, carbon dioxide, and water fog. Extreme slipperiness occurs if SAP is spilled and comes into contact with water.

Fire Fighting Instructions:

Firefighters should wear full protective clothing, including self-contained breathing apparatus. Avoid inhaling dust during cleanup.

Seepage:

The outer surface of the bags can become slippery when wet, and the ground under an inflated bag may also be slippery. To prevent slipping, place a few S.O.S. Bags flat on the floor around doorways and other openings to keep the surface dry.

Emergency Overview:

Sodium polyacrylate (SAP) is chemically stable under normal conditions. SAP may leak from a broken S.O.S. Bag or be released from tampering. SAP dust may escape due to rough handling or stacking. Although SAP is not regulated as a hazardous material, respirable dust could irritate the respiratory tract.

Potential Health Effects:

- **Eyes:** SAP dust may cause burning, drying, itching, or reddening of the eyes. Flush eyes with water and seek medical attention if irritation persists.
- **Skin:** SAP dust may aggravate existing skin conditions. Wash skin with soap and water and remove contaminated clothing.
- **Ingestion:** SAP is non-toxic if ingested. Seek medical attention immediately if any ill effects occur.
- **Inhalation:** Inhalation of SAP dust may irritate the respiratory system. Ensure proper ventilation, and wear a respirator if exposure exceeds 0.05 mg/m³. Seek medical attention if symptoms persist.

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