(MATERIAL) SAFETY DATA SHEET

This Safety Data Sheet was created in accordance with the SWA National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)] and under the requirements of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

Date of Issue: Issue #6, revised December 2011 (valid for 5 years)
Replaces: Issue #5, revised January 2007

Trade Name: **FLOATING ABSORBENT BOOM**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product Name: **FLOATING ABSORBENT BOOMS**
Unique Reference #: *031 & 032*
Other Names: Reinforced Absorbent Boom, Absorbent Mini-Boom (032)

1.2 Manufacturer Name: **Enretech Australasia Pty Limited** (A.B.N. 62-070 856 414)
P.O. Box 1154, Moss Vale, NSW 2577 Australia
Tel. 61 2 4869 3261, Fax. 61 2 4869 3264
Email: info@enretech.com.au, Internet: www.enretech.com.au

1.3 Recommended Use: A recycled, treated cellulose absorbent product for the absorption and encapsulation of petroleum hydrocarbon liquid spills from water. Bound by a HDPE outer cover. Floats on salt or fresh water indefinitely, even when fully saturated with oil. Booms can be secured together via overlapping stainless steel clips (reinforced 3m booms only). Each boom is equipped with a suitable length of synthetic rope for easy retrieval.

1.4 Emergency Tel. #: 61 (0)425 232 741
Product information (Monday – Friday, 8:00am – 10:00pm EST)

2. HAZARDS IDENTIFICATION

2.1 Statement of Hazardous Nature: Not classified as hazardous or dangerous in accordance with [NOHSC:1008 (2004)], HSIS [NOHSC:10005 (1999)], [ADG Code 7th Ed.].

2.2 Risk Phrases: Not hazardous. No criteria found.

2.3 Safety Phrases: S22, S25. Do not breathe dust. Avoid contact with eyes.

2.4 SUSMP Classification: *None Allocated.*

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance: Treated Cellulosic material derived from recycled cardboard.
Content: >60%
CAS No.: 9004-34-6

3.2 Substance: Proprietary Ingredients
Content: <10%
CAS No.: Not Available

3.2 Substance: High Density Polyethylene (outer mesh cover)
Content: <10%
CAS No.: 9002-88-4

3.2 Substance: Polypropylene (inner mesh liner)
Content: <10%
CAS No.: 9003-07-0

4. FIRST AID MEASURES

4.1 Eye Contact: No special measures necessary. If dry booms are torn apart and cellulose material enters the eyes, hold eyes open, flooding with water for at least 15 minutes. Seek medical attention if irritation persist.

4.2 Skin Contact: No special measures necessary.

4.3 Ingestion: No special measures necessary. If dry booms are torn apart and cellulose material is ingested, thoroughly rinse mouth with water. Drink a glass of water. Do not induce vomiting. If discomfort arises, seek medical attention.

4.4 Inhalation: No special measures necessary. If dry booms are torn apart and encountering respiratory difficulties, remove from dusty area and into fresh air, if possible. Seek medical attention if effects persist.

4.5 First Aid Facilities: No special equipment necessary.

4.6 Advice to Doctor: Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Suitable Extinguishing Media:

Suitable: Water spray, foam, carbon dioxide or dry chemical powder, synthetic foams, BCF or alcohol resistant foams.

Unsuitable: *No Restrictions.*

5.2 Hazards from Combustion Products:

Combustion by-products include carbon monoxide, carbon dioxide, and carbon (soot). Polyethylene smoke may contain polymer fragments of varying composition, in addition to unidentified toxic and/or irritating compounds. Polypropylene smoke may also contain formaldehyde and acrolein.

5.3 Precautions for Fire Fighters and Special Protective Equipment:

Combustible solid. Absorbent material is not flammable under conditions of normal use (as per USEPA Test Method 1030). Polyethylene and polypropylene jackets are also considered combustible and will burn if involved in a fire. Fire fighters to wear self-contained breathing apparatus if there is a risk of exposure to polyethylene and polypropylene combustion or decomposition products.

5.4 Hazchem Code:

None Allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Emergency Procedures: Spills of this product do not pose a risk to health or the environment, however avoid flushing inner sorbent to sewer or releasing to the environment. Fully biodegradable.

6.2 Methods and Materials for Containment and Clean Up Procedures

Wear appropriate protective equipment (See Section 8: Exposure Controls / Personal Protection) where significant exposure is possible. If cleaning residues with a vacuum cleaner, use HEPA rated vacuum.

Small Spills: Sweep up loose particulate, but avoid generating ambient dust.

Large Spills: Collect loose particulate and place in clean, labelled containers for disposal.

7. HANDLING & STORAGE

7.1 Precautions for Safe Handling: Not classified as a dangerous good or hazardous substance. No special handling requirements necessary. If decanting inner sorbent material, avoid dust generation and ensure containers are adequately labelled.

7.2 Conditions for Safe Storage: Keep in a dry, cool, ventilated area and stored in closed cartons. Will not self-heat. Outer polyethylene cover is UV resistant, however the inner polypropylene liner may break down after 5-6 months if exposed continuously to direct sunlight. Not to be stored near strong Oxidisers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 National Exposure Standards:

NOHSC:1003(1995/2005):	10 mg/m^3 (cellulose – inspirable dust) (Australia)
OSHA-PEL:	15 mg/m^3 (cellulose – total dust), 5 mg/m^3 (cellulose – respirable dust)
ACGIH-TLV:	10 mg/m^3 (cellulose – total dust)

8.2 Biological Limits: No biological limit allocated.

8.3 Engineering Controls: No special ventilation is required under normal use. Mechanical lifting devices may be necessary when lifting oil-soaked booms from the water as they can contain up to 65kg of oil.

8.4 Personal Protective Equipment

Eye Protection: Eye protection not needed under normal conditions.

Skin Protection: Gloves not needed under normal conditions, although they may be required when handling booms that have absorbed oil.

Respiratory Protection: Dust mask not necessary under normal conditions.

Other Protection: Other protective clothing not required under normal conditions. Coveralls may be required when handling booms that have absorbed oil.

9. PHYSICAL & CHEMICAL PROPERTIES

9.1	**Appearance:**	White meshed tube with grey or brown, fluffy cellulose material inside.
9.2	**Odour:**	None.
9.3	**pH:**	7 in water.
9.4	**Vapour Pressure:**	Not Applicable.
9.5	**Vapour Density:**	Not Applicable.
9.6	**Boiling Point:**	Not Applicable.
9.7	**Melting Point:**	Not Available. (deg. C @ 760 mm Hg)
9.8	**Solubility (in water):**	Insoluble.
9.9	**Density:**	0.061 g/mL (inner sorbent)

9.10 Additional Information

Flash Point:	*Not Available.*
Auto-Ignition Temp.:	*> 260 deg. C (inner sorbent), >370 deg. C (outer cover)*
L.E.L.:	*50,000 mg/m³ in air (inner sorbent)*
U.E.L.:	*Not Available.*
Percent Volatiles:	*Approximately 17% moisture but no organic volatiles (inner sorbent).*
Particle Size Range:	*Not Available.*
Flame Propagation:	*Does not propagate a flame as per USEPA1030 (inner sorbent).*
Potential for Dust Explosion	*Risk of spontaneous combustion is negligible.*

10. STABILITY & REACTIVITY

10.1 Chemical Stability: Stable under normal and anticipated storage and handling conditions of temperature and pressure.

10.2 Conditions to Avoid: Not reactive under conditions of normal use.

10.3 Incompatible Materials: As the sorbent is an organic material, it is incompatible with strong Oxidisers.

10.4 Hazardous Reactions: Contact with strong oxidisers could result in ignition of sorbent. Will not polymerise.

10.5 Hazardous Decomposition Products: None, when used and handled as intended.

11. TOXICOLOGICAL INFORMATION

11.1 Acute Health Effects: No animal toxicity data for this product is available. Inner sorbent is considered to be benign with possible minor skin, eye and/or respiratory irritation.

11.2 Chronic Health Effects: No data available. No carcinogenic compounds present. No asbestos or mineral fibres present. Not known to cause lung fibrosis.

11.3 Health Effects from Likely Routes of Exposure:

Swallowed: Unlikely as an exposure route. As the product is mostly natural cellulose, it is physiologically inert, and non-harmful if swallowed.

Eye: If dry booms are torn apart, dust particles from the inner sorbent may cause mechanical irritation, resulting in redness.

Skin: Absorption through skin not an exposure route. Unlikely to be a skin irritant. Repeated skin abrasion may cause redness.

Inhaled: If dry booms are torn apart and the inner sorbent dispersed in air, inhalation of high dust levels may cause irritation to the mucous membranes of the nose, throat and respiratory tract. Persons with a history of respiratory illness should not be exposed to conditions where exposure to significant levels of dust is likely.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity: Aquatic toxicity tests have been conducted on the inner sorbent as per ASTM D5560 test method (Microtox). This sorbent material alone has been shown to have very low ecotoxicity (>100 g/100mL). As it is an absorbent used for cleaning up oil spills on water, the product has also been tested to show an oil toxicity reduction of 82%. This is achieved through the removal of the oil from the environment via absorption and encapsulation.

12.2 Persistence / Degradability: Inner sorbent is 100% biodegradable in 2-5 months under aerobic conditions. The high density polyethylene outer jacket and the polypropylene inner jackets have much longer degradation rates (> 100 years).

12.3 Mobility: The product contains a loose particulate tightly contained inside an inner and outer reinforced jacket. It can thus be applied to an oil spill as it would be considered controlled (ie: boomed) conditions. TCLP analysis conducted on the product + oil show minimal leaching of oil components.

13. DISPOSAL CONSIDERATIONS

13.1 Disposal Methods: The inner sorbent in this product is a treated, recycled cellulose material and un-used material can either be discarded into regular garbage, incinerated by approved agents, or biodegraded via commercial composting. Avoid discarding to sewer. The synthetic inner and outer jackets are normally suitable for disposal at an approved landfill site or via incineration by an approved agent. This product is designed to be used as an absorbent to clean up spilled petroleum hydrocarbons from water. Thus, the used product should be considered to have the same properties as the liquid it has absorbed. In general, follow disposal criteria pertaining to the liquid absorbed.

13.2 Special Precautions for Landfill or Incineration: Under normal circumstances, if the product has been used to absorb light to medium weight petroleum hydrocarbons (C10-C36), the solid mixture can usually be discarded into solid waste landfill. However, always consult your applicable State Waste Management authority to ensure proper disposal practices.

14. TRANSPORT INFORMATION

14.1 UN Number: None Allocated.

14.2 UN Proper Shipping Name: None Allocated.

14.3 UN Class & Subsidiary Risk: None Allocated.

14.4 UN Packing Group: None Allocated.

14.5 Special Precautions for User: No special precautions required for transport.

14.6 Hazchem Code: None Allocated.

14.7 Export Information: *This product is currently exported from Australia. No export restrictions apply.*

15. REGULATORY INFORMATION

SUSMP Poisons Schedule Number:	None Allocated.
National Industrial Chemicals Notification & Assessment Scheme (NICNAS):	None Allocated.
Australian Pesticides & Veterinary Medicines Authority:	None Allocated.
Therapeutic Goods Administration (TGA):	None Allocated.
Food Standards Australia New Zealand (FSANZ):	None Allocated.

16. OTHER INFORMATION

The inner sorbent of this product is manufactured in Australia from a specially treated recycled cardboard waste stream. This material does not contain bacteria or fungi of any kind. The product is fully biodegradable, contains 100% recycled content and will readily attach itself to all forms of petroleum hydrocarbons on water. It will absorb up to 19 times its own weight in medium weight petroleum hydrocarbons.

Most maritime authorities restrict the use of loose particulate materials for purposes of on-water spill response. As such, loose materials must be contained, either in pillows, socks, mats or within the confines of booms (such as this product) or booming operations. Organic sorbent materials are frequently, and effectively, used on many oil spills and do not require EPA review or listing.

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ACRONYMS:

ADG	**Code Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition**
AICS	**Australian Inventory of Chemical Substances**
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code that provide information to emergency services
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
S-Phrase	Safety Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
SWA	Safe Work Australia, formerly ASCC and NOHSC
UN Number	United Nations Number

(MATERIAL) SAFETY DATA SHEET

Trade Name: **FLOATING ABSORBENT BOOM**

REFERENCES:

1. National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC: 2007 (1994)], January 1994, SWA Canberra ACT
2. National Model Regulations for the Control of Workplace Hazardous Substances [NOHSC: 1005 (1994)], March 1994, SWA Canberra ACT
3. Australian Dangerous Goods Code, 7th Edition, National Road Transport Commission, Revised October 2011
4. National Standard for the Storage and Handling of Workplace Dangerous Goods, [NOHSC: 1015 (2001)], March 2001, SWA Canberra ACT
5. Approved Criteria for Classifying Hazardous Substances, 3rd Edition, [NOHSC: 1008 (2004)], April 2003 SWA, Canberra ACT
6. National Code of Practice for the Preparation of Material Safety Data Sheets, 2nd Edition, [NOHSC: 2011 (2003)], October 2004 SWA, Canberra ACT
7. Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 1003 (1995)] + Source A Updates 2005, August 2005, ASCC Canberra ACT
8. (Draft) National Standard for the Control of Workplace Hazardous Chemicals, September 2006, ASCC, Canberra ACT
9. The Globally Harmonised System of Classification and Labelling of Chemicals (GHS); ILO, Geneva (2011)
10. National Code of Practice for the Storage and Handling of Dangerous Goods, [NOHSC:2017 (2001)], March 2001, SWA Canberra ACT
11. Hazardous Substance Information System, updated December 2010, http://hsis.ascc.gov.au (replaces List of Designated Hazardous Substances, [NOHSC: 10005 (1999)], April 1999 ASCC, Canberra ACT)
12. Standard for the Uniform Scheduling of Medicines and Poisons, No. 2; August 2011, Published by the Australian Government under the Therapeutic Goods Act 1989.

ADVICE NOTE:

This Material Safety Data Sheet (MSDS) summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user must review this MSDS and consider the information in the context of how the product will be handled and used in the workplace. When used for liquid spill clean-up, sorbents tend to take on the characteristics of the liquid they have absorbed. Thus, always consult the MSDS of the spilled liquid prior to absorption with this product.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

End of MSDS