

Technical Data Sheet

Biosphere Matt

Description: **Biosphere** is a natural Ultra Low VOC, water based EXTERIOR paint system developed using a graphene nanotechnology polymer and lime. Graphene provides strength, flexibility and durability whereas lime provides passive functionality by absorbing atmospheric carbon dioxide. Other functional attributes such as mild anti-bacterial and insecticide properties.

- Features:**
- Ultra Low VOC with no harmful emissions
 - Absorbs atmospheric carbon dioxide
 - Exceeds requirements for Green Building and Passive House projects
 - Excellent exterior durability
 - Excellent strength & flexibility
 - Breathable
 - Mineral matt finish
 - Available in a full strength Pure White and Pastel bases

Safety Precautions: Observe all Occupation Health and Safety (OH&S) precautions. Refer to the relevant Safety Data Sheets (SDS) for product safety related information. For further information and support: **Nutech Paint 03 9770 3000**
www.nutechpaint.com.au

Usage warnings:

- Alkaline product - **Contains lime**
- Protect skin and eyes
- Apply with good ventilation, do not inhale product
- If spray applied, use an approved respirator. Refer to WorkSafe Australia in your relevant state for further guidance
- Keep out of reach of children

Provisions: **Product MAY BE diluted with water prior to application.** Refer to the mixing/ dilution instructions outlined in this TDS and observe storage and handling conditions.

Chemical Type: Water based graphene and mineral emulsion

Product Attributes: CO₂ Absorption*: 0.32g/Lt - Per pail: 3.2kg Per 10/Lt
 1.6kg Per 5/Lt
 pH: 12 - 13
 Total Volatile Organic Compounds (TVOC): <3 g/Lt
 Emission rating: Exceeds GBCA Green Star IEQ13 compliance
 Permeability to water vapour: Class 1 (EN 1062-1): SD < 0.14 m
 Washability (EN 13300): Class 1
 Capillary water absorption w < 0.01 kg/m² h0.5
 Fire performance B-s1, d0
 Solubility: In Water
 Minimum Film Forming Temperature: 10°C

**Absorption testing conducted on Graphenstone Biosphere Pure White*

Typical Applications: Domestic & Multi Density Residential, Industrial and Commercial uses where Green Building and Passive House criteria is required.

Recommended Substrates:	Biosphere is suitable for plaster, timber, masonry, brick and other similar building substrates
Coverage / Spread Rate:	12 - 18m²/L (Per coat). Coverage will depend on the porosity and roughness of the surface. To maximise performance do not over spread.
Test Patch:	Conduct a small test patch in an inconspicuous area to ensure adequate product performance, substrate porosity and provide an indication of the time required to complete project.
Packaging:	1L pot, 5L pail & 10L pail
Storage:	Cool, dry location. Keep from freezing and avoid contact with direct sunlight and heat.
Shelf life:	Stored 12 months @ 25°C Product may thicken without losing properties. Should thickening occur, observe Mixing/ Thinning Recommendations
NOTE:	Colour Requirements: Due to the natural mineral nature of Biosphere, colour selection is limited to whites and pastel tones. Refer to Nutech Paint for further advice and recommendations.
Mixing/ Thinning:	Biosphere is supplied ready for use (RFU). If dilution is required observe the following; Maximum dilution: 15%. by volume - clean fresh water Prior to Commencement: Stir well to a homogeneous mixture. Avoid excessive stirring or shaking to minimise bubbles.
Preparation:	In accordance with AS/NZS2311 commensurate with substrate. Refer to the preparation and product recommendations outlined in this TDS.
Application:	Brush Roller Airless Spray. Refer Application guidelines for recommendations
Drying Time	Note: Dry times based on ambient conditions @ 25°C and 60% relative humidity. Dry times will be increased in lower temperatures or higher humidity.
Touch Dry:	30 Minutes
Recoat:	2 – 4 Hours
Total Dry:	24 hours
Total Cure:	Total curing occurs during the first 30 days. It is recommended to avoid cleaning and/or rubbing during that period.



SUBSTRATE CONSIDERATIONS:

Conditions of the substrate: The substrate must be dry, firm, well-adhered and free from any impurities that may hinder the product from setting fully.

Do not apply to surfaces in constant contact with water.

Mineral based substrate: Concrete/ render must have been allowed to cure for a minimum 28 days.

Preparation of the substrate: If the substrate presents algae, mould, fungi and / or other impurities, it is recommended to thoroughly clean with specific products for this purpose.

Substrates Note: Must be resistant to high alkalinity.

High moisture level substrates: 24 hours before top coat application, apply Ambient Pro - StopWater.

Blistered, and flaking paint: Remove all damaged and loose paint from the surface.

Fill any irregularities and sand smooth in accordance with the appropriate filler recommendations.

Surface cracks: the recommendation depends on the width of the crack:

- 1-3 mm Apply filler (with a fiberglass mesh if >1 mm).
- 3-10 mm V groove and apply filler with mesh.
- >10 mm Requires architectural assessment.

Deteriorated render: Remove all damaged and loose render from the surface.
Repair rendered areas as required.

If the substrate presents structural cracks, moisture by capillarity, condensation or filtration, etc.; it is necessary to resolve the structural problems first. Architectural and Engineering advice should be sought prior to commencement of works.

PREPARATION:

- **Old acrylic interior paint:** Lightly sand (P220 Grit or scourer pad) and clean surfaces. Apply **Ambient Pro - Primer Colour Blocker**.
- **Old oil based paint:** Lightly sand (P220 Grit or scourer pad) and clean surfaces: **Apply Ambient Pro - Four2Four**.
- **Pre-painted deep toned colours (Interior) :** For greater coverage apply **Ambient Pro - Primer Colour Blocker**.
- **Absorbent interior substrates:** (e.g. cement blocks, brick, plaster, etc.): apply **Ambient Pro - Primer Colour Blocker**.
- **Absorbent exterior substrates:** (e.g. cement blocks, brick, plaster, etc.): apply **Ambient Pro – Four2Four**.
- **Wood or metal** (free of corrosion or oxidisation) apply **Ambient Pro - Four2Four**

Masking: Mask off or apply drop sheets to all areas not to be coated, to ensure no spatter or overspray.

If masking is required on freshly painted surfaces, allow first coat to dry for minimum 36 hours

APPLICATION INSTRUCTIONS:

Ambient Conditions:

The work temperature must be between 5°C and 32°C. Do not apply in direct sunlight.

In case of rain: Do not coat if rain is likely within 24 hours .

Tropical or high humidity areas:

Apply 1 – 2 coats Hydroxéal as a top coat sealer to minimise moisture absorption - refer to the TDS.

Brush Roller Application:

- **Roller: 12 – 15mm nap microfiber**
- Paint in sections (wall by wall) starting with cutting in borders
- Do not overload brushes and rollers
- Apply evenly in a V pattern
- Lightly back roll to ensure a consistent, even finish

Note: Excessive build or failure to observe dry times between coats may generate micro-cracks.

Airless spray application:

- **Tip size:** 0.017 – 0.021 Thou.
- **Minimum machine power:** 3300 psi
- **Filter:** Coarse
- Apply 2 – 3 coats in an even and consistent manner.

Complementary products: It is recommended to use the Graphenstone product range of primers and sealers for application, repair and/or finishing as required.

Please, refer to the relevant Technical Data Sheets or Contact Nutech Paint for further assistance.

Do not inter-mix with any other products as specific properties may change.

Clean Up:

Protecting Our Environment is important to Nutech Paint:

Clean up with clean warm water. Do not pour leftover paint down drains or in rubbish bins. Unwanted paint should be kept in a sealed container and then disposed of via special waste collection services. Empty paint containers should be left open in a well ventilated area to dry out. Dispose of empty paint containers in accordance with local authority's recycling guidelines. Always check with your local council first.

First Aid:

SEEK IMMEDIATE MEDICAL ATTENTION. Refer to the appropriate *Nutech Safety Data Sheet* (SDS) for further information. For medical emergencies only, call: 000

- In case of eye contact, flush thoroughly with water for at least 15 minutes
- In case of skin contact, wash affected areas with soap and water
- Remove and wash contaminated clothing
- If inhalation causes physical discomfort, remove to fresh air
- If discomfort persists, any breathing difficulty occurs or if swallowed, seek medical advice

Warranty

Nutech warrants its products to be free from defects in material and workmanship. Nutech's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Nutech's option, to either replacement of products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by Buyer to Nutech in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify Nutech of such non-conformance as required herein shall bar Buyer from recovery under this Warranty.

Nutech makes no other warranties concerning the product. No other warranties, whether express, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall Nutech be liable for consequential or incidental damages.

Any recommendation or suggestion relating to the use of the products made by Nutech, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

Limitation of Liability

Nutech's liability on any claim of any kind, including claims based upon Nutech's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or part thereof which gives rise to the claim. In no event shall Nutech be liable for consequential or incidental damages.

Disclaimer

The information given on this data sheet is based on many years' experience and is correct to the best of our knowledge. However, since the use of our product, surface conditions, weather and a number of other factors are completely beyond our control, we can only be responsible for the quality of our product at the time of dispatch. For more information please contact our Company. As this information is of a general nature, we cannot assume any responsibility in individual cases.'

The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous product development.



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For a perfect finish!

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