

GREEN GUIDE



GRAPHENSTONE



Our Commitment to Sustainability

Graphenstone paints are at the forefront of change in the paints industry. By using sustainable, traditional raw materials and combining them with graphene, the ultimate in material innovation and carbon technology, Graphenstone delivers a natural mineral based coating, with Class 1 durability.

Our DNA is intrinsically aligned with the commitment to produce paints and coatings embodying the values of a circular economy, from the highest quality, health-conscious and sustainably sourced materials available.

The paints and coatings industry is plagued by issues such as misleading communication, greenwashing, and a pervasive lack of transparency. For Graphenstone, clear, accurate, and succinct communication is a defining characteristic that governs the operations of our operations worldwide.

In accordance with guidelines established by authoritative bodies such as the BCF, ASEFAPI, and ASA, we are publishing our bespoke 'Green Guide.' This guide aims to clarify key brand messages and specific communication elements, where both transparency and strict compliance with rules and regulations are of the utmost importance.

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Our Mission

Our commitment is unwavering in the development of high-performance, long-lasting, and ecologically responsible products that enable our customers to achieve their goals in a sustainable and ethical manner. As we advance our corporate mission, we are steadfast in generating a beneficial social impact that resonates with the community and the environment.

Certifications

Graphenstone was among the trailblazers in the global paint industry to secure Cradle-to-Cradle certifications, a leading standard that serves as a benchmark for materials, products, and systems that exert a positive influence on both humanity and the environment.

The Cradle to Cradle framework scrutinizes the constituents and raw materials in our paints down to 100ppm, making it one of the most rigorous material assessment platforms globally. These certifications affirm that the chemicals and materials we employ are meticulously chosen to prioritize both health and environmental sustainability, while also endorsing a philosophy of reuse; all our flagship paints are engineered for full circularity.

We are presently in the process of obtaining our B Corp certification.

Our paints have undergone some of industry's most rigorous emissions tests and also achieve standards such as:

- Eurofins Indoor Air Comfort Gold certification
- C2C Material Health Gold
- Global GreenTag
- Green Tag Health Platinum
- Toy Safe UNE-EN 71-3:2020 + A1:2021
- EU Ecolabel
- CDPH 1.2
- Sensitive choice
- Environmental Product Declaration
- A+ France

Our paints rank among the most rigorously tested in the market, complying with and achieving:

- Fire certifications – Class 0, A2-s1, d0 and B-s1, d0
- BREEAM, LEED, WELL, SKA,

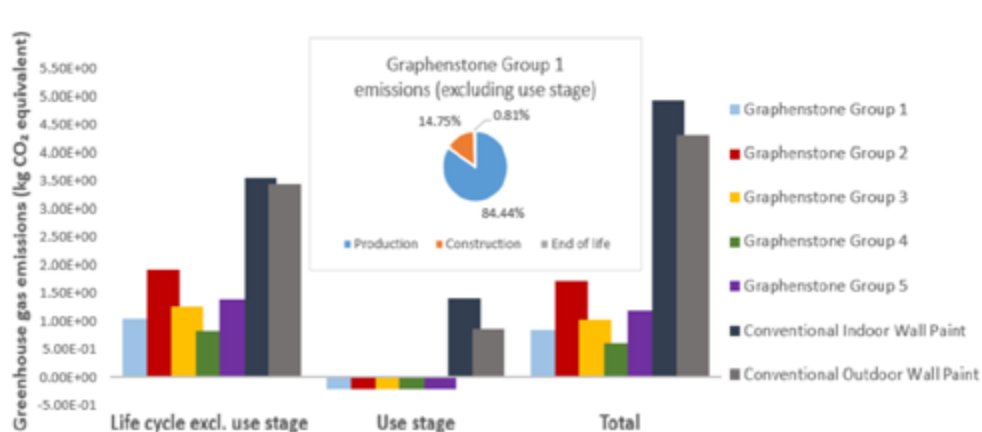
Environmental Sustainability

Carbon Footprint – CO₂e

All manufactured products leave an environmental imprint through the emission of greenhouse gases such as carbon dioxide (CO₂). This imprint is termed a “carbon footprint,” and it quantifies the aggregate volume of these gases emitted throughout the entire lifecycle of a paint or coating—from production to application and eventual disposal. In our context, a diminished carbon footprint signifies our concerted efforts to mitigate the environmental repercussions of our paints and coatings.

Graphenstone paints are crafted in alignment with the same ecological ethos that governs our ingredient and raw material sourcing, thereby ensuring our environmental footprint remains as negligible as possible.

A majority of our paints boast exceptionally low VOC (Volatile Organic Compounds) levels, rendering them not only safer for human health but also less detrimental to the environment. Some of our formulations go a step further by actively sequestering CO₂ and purifying the ambient air upon application resulting in a negative footprint at point of use, to partially offset emissions in production.



[Oxford University Study](#)

However, Graphenstone benefits go way beyond the CO₂ sequestration and minimal VOC levels. The use of mineral ingredients, recycled packaging and careful processes which consider optimization for key resources such as energy and water, allow us to develop products with a low impact and significantly reduce the carbon footprint compared to other similar-performing paints.

Graphenstone paints as a result, have one of the lowest footprints in the industry, with GWP (Global warming potential) figures A1-D, as low as 0.0815kg CO₂e per m².

Please, refer to our EPD and CO₂e Comparison calculator for exact details on the environmental impact of our products and comparative calculations with other paint's figures.

Graphenstone is also accredited with ISO 14001 certification, epitomising our unwavering commitment to environmental stewardship and energy management. These globally recognised standards attest to the caliber of our eco-conscious processes, ensuring they meet the most stringent environmental criteria. Our approach to sustainability transcends mere carbon footprint reduction; it envelops every facet of crafting eco-friendly paints and coatings. This comprehensive commitment distinguishes us as a trustworthy choice for high-quality products that are both ecologically responsible and sustainable.

Renewable Energy

Our paints are manufactured using renewable energy and utilise the waste olive pits from the local olive oil industry as part of the biomass fuel.

Water Management

At Graphenstone, we have implemented a water management system that reduces our consumption of freshwater. This system operates in a closed-loop, where wastewater undergoes an evaporation treatment process. Once its quality is verified, the water is maintained in optimal conditions for reuse in our production cycle.

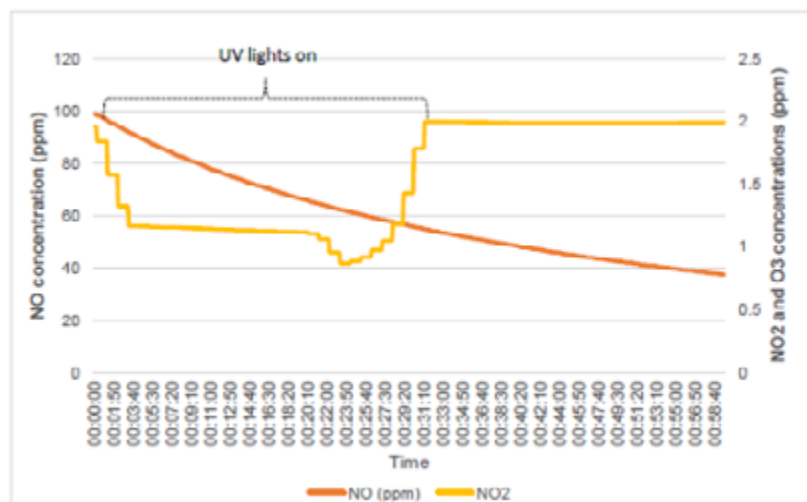
During the evaporation process, water is transformed into vapor and collected as purified water to be reused within our production process and for equipment cleaning.

Air Purification

While Ambient Pro+ may appear to be just another paint, its unique formula sets it apart. Infused with anatase TiO₂, it actively contributes to air purification by reducing pollutants like NO_x by up to 55%. This is made possible through a process called photocatalysis—where “Photo” means light and “Catalytic” refers to change or reaction.

The mineral composition of the paint uses light energy to activate Titanium dioxide crystals, effectively neutralizing airborne pollutants and converting them into oxygen and harmless nitrates. Importantly, this feature remains active as long as the paint is in good condition and exposed to light.

Ambient Pro+ is rated Class 3 according to ISO 22197-1:07, which focuses on the elimination of nitric oxides in the air through photocatalysis. Moreover, independent tests with the University of East London show a 55% reduction in NO_x levels.



VOCs

Volatile Organic Compounds (VOCs) might sound like a complex term, but they're essentially gases emitted from certain solids or liquids. These compounds include a range of chemicals, some of which can have negative health impacts both in the short and long term. Interestingly, VOC concentrations are often much higher indoors—sometimes up to ten times higher*—compared to outdoor levels. And it's not just industrial settings; these compounds are emitted by everyday items like paints, building materials, and even dry cleaning products!

It's a legal mandate for paint labels to disclose the VOC content of the product. At Graphenstone, we're proud to say that our paints have some of the lowest VOC levels in the industry. Almost all our paint lines are certified to contain less than 1g/L, which translates to less than 0.1%/kg

In line with guidelines from the BCF, which advise against advertising paints as 100% VOC-free, we take a transparent approach, we've opted to describe our products as 'Virtually VOC-free.' or 'Trace VOCs only' .

We also qualify to display the BCF Trace Globe symbol (indicating VOC content of less than 0.1%) on our packaging where applicable.

*<https://www.epa.gov/indoor-air-quality-iaq/what-are-volatile-organic-compounds-vocs>

CO₂ Absorption

Our lime-based paints have a unique feature: they can absorb CO₂ as they cure, with the majority of this absorption occurring within the first 30 days post-application. This helps to sequester carbon and purify the air. However, it's worth noting that this is a finite reaction, limited to the curing phase of the paint.

The lime cycle is a classic example of nature's chemistry at work. The term "lime" refers to products that come from calcined (or burnt) limestone, such as quicklime and hydrated lime. Limestone itself is naturally abundant sedimentary rock rich in calcium and/or magnesium carbonate, often accompanied by small amounts of other minerals.

The process is straightforward: When limestone or chalk (which is primarily calcium carbonate) is burnt in a kiln, it transforms into quicklime (calcium oxide) and releases CO₂. Adding water to this quicklime produces hydrated lime (calcium hydroxide).



Products derived from limestone possess a unique characteristic: they can revert to their original chemical form. During this phase, carbon dioxide from either the atmosphere or industrial activities interacts with hydrated lime (calcium hydroxide), converting it back into limestone.

In line with this natural cycle, Graphenstone's lime-based paints have the ability to absorb up to 5.5kg of CO₂ per 15L of paint used as they cure. Most of this absorption takes place within the first 30 days after application, contributing to a cleaner atmosphere.

Paint Characteristics

Chemical Preservatives % Additives

Graphenstone paints avoid adding MIT or BIT chemical preservatives in our formulations. Instead, we opt for a natural lime additive to serve as a preservative. However, it's important to note that some of our raw materials may contain trace amounts of chemical preservatives.

Regarding BIT, recent changes to EU legislation now mandate that all levels of BIT preservatives, no matter how minuscule, must be disclosed. A small number of raw materials in some of the Graphenstone paints can contain trace amounts - less than 0.05% - of BIT. This information is now required to be included on both packaging and data sheets.

Our product Four2Four contains < 0.02% TMDD (2,4,7,9-tetrametildec-5-ino-4,7-diol), an additional adhesive agent enabling the primer to adhere well to difficult surfaces.

Plastics & Microplastics

Given the growing prevalence of microplastics in water, food, and even human blood, it's crucial to recognize the challenges posed by complex material supply chains.

Graphenstone paints do not add microplastics to their unique mineral formulations. Despite sourcing from the cleanest material suppliers available, supply chains have no obligation to provide full ingredient disclosure. We cannot therefore guarantee their 100% absence in our raw materials, given the widespread infiltration of plastics, within materials globally.

Raw Materials

Graphenstone paints are crafted using responsibly sourced, healthy, and sustainable materials from some of the most eco-friendly suppliers in the industry. We utilize only the finest raw materials, including Calcium Hydroxide, Calcium Carbonates, Silicates, resins, and mineral fillers, to ensure the highest quality.

Ingredients Guide

We use natural minerals and sustainably sourced materials, with some of the most tested and environmentally friendly ingredients available.

Our basic materials list includes (some ingredients are product specific):

- Calcium Hydroxide – Sourced from Estepa kilns, near Seville. Traditionally mined by the same family for over 200 years
- Calcium carbonate
- Cellulose
- APEO, formaldehyde and ammonia free binder
- Graphenstone Technology – Patented graphene cross linking material
- Graphene - Manufactured from pure carbon. Micrometric in scale. Sourced, Madrid, Spain
- Hydroxyethylcellulose
- Phosphonate
- Potassium silicate
- Stabilizers and specific dispersants
- Titanium dioxide, as pigment and anatase crystals
- Water

Some of our primers and pre-treatments contain acrylic binders due to the specific performance needs of the product.

For a full list of all our ingredients please view our HPD (Product Health Declaration) from Global Green Tag.

[Graphenstone HPD](#)

Ongoing Research & Development

Graphenstone is continually testing new materials and improved formulations and are currently testing a range of biobased resins and ingredients derived from renewable biological materials.

Ethics and Vegan Choices

As the BCF states in their own Green Guide:

“Paints are mostly made from synthetic chemicals and inorganic minerals and so should be vegan. There are some that contain natural ingredients; however, these are usually of vegetable origin (e.g. soya oil). Some ingredients used in paints could be derived from animal sources, for example glycerol, which, is used to create a basic ingredient of some paints; casein, which is derived from animal milk, and lanolin waxes (from sheep).”

As a company Graphenstone do not knowingly use materials that have been tested on animals. Graphenstone complies with the worlds' most stringent quality standards, holding some of the highest international certifications such as Cradle to Cradle Gold, to manufacture one of the most environmentally aware paints available anywhere in the world to date. Cradle to Cradle do not advocate or promote animal testing.

Environmentally friendly practices / Green initiatives

Recycling

Graphenstone paints are made using natural minerals and sustainable materials which are intentionally designed to be circular, in line with the Cradle to Cradle standards. This means that our products contain over 50-90% of materials by weight that are compatible with the planned cycling pathways – recyclable, compostable or biodegradable.**

*** source C2C Product Circularity requirements*

Our Packaging

In all our global markets, we opt for packaging that's as environmentally friendly as our paints.

Our plastic tubs are manufactured from 100% PCR (post-consumer recycled) plastic and are also 100% recyclable, further aligning with our commitment to sustainability.

Local tub Recycling

While empty paint tubs may not be widely accepted for recycling in general household waste, we recommend checking with local recycling authorities for specific information in your area.

Paint Waste Management

Excess paint can typically be processed through local household waste and recycling centers. We recommend consulting with your local authorities for specific guidelines in your area. In some instances, unused liquid paint can even be donated for reuse.

Local Initiative

At our headquarters and manufacturing facility in Seville, Spain, we've launched a unique initiative called 'Factory.' Within this program we manage items like leftover cans from previous collections, discontinued products, and past-season items.

We also donate these products to various local organizations in El Viso del Alcor, including the Association for Addicts and the Sahara Children's Association, among other community support groups. This initiative not only minimises waste but also makes a meaningful impact on the well-being of our local community, underscoring our unwavering commitment to sustainability in all facets of our operations.



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