

Paints and coatings

Omya sustainability toolkit

Your complete set of solutions for paints and coatings

THINKING OF TOMORROW



Welcome to Omya

Omya is a leading global producer of essential minerals, and a worldwide distributor of specialty materials.

Since 1884 we have had a positive influence on people's lives, developing solutions to everyday challenges that are practical, efficient and sustainable.





Making life better

Our company purpose, “Making life better through our passion for minerals and chemistry” unites our 9,000 employees around the world. From the scientists in our innovation labs to the engineers overseeing our production plants and the teams working with customers day in day out, we are always Thinking of Tomorrow and how we can improve life for current and future generations.

This often means finding ways of helping our customers become more sustainable by reducing their carbon footprint, optimizing their use of resources, minimizing waste, improving circularity or protecting the environment.

Sustainability is key

As a global business operating in more than 50 countries, we recognize the substantial impact of our operations on the diverse communities and economies in which we operate and on the environment.

Omya is committed to balancing economic success with environmental stewardship and social equity and helping our customers meet their own sustainability goals through the use of our natural mineral solutions.

This toolkit for sustainable paints and coatings is an example of that commitment.



How many ways can you make your paint more sustainable?

Sustainable together
Omya works closely with customers to formulate sustainable paints and coatings to meet future regulations.

A complete toolkit
This sustainability toolkit for paints and coatings offers solutions that respond to a full range of market, sustainability and regulatory needs. Our worldwide technical experts support you in selecting, formulating and implementing sustainable solutions for
paints and coatings.

These solutions will help you align with ESPR (Ecodesign for Sustainable Products Regulation) criteria and improve your LEED score for building development.

The United Nations Sustainable Development Goals (SDGs or Global Goals) were adopted in 2015 as a universal call to action to ensure that by 2030 all people enjoy peace and prosperity.

Eco-design for Sustainable Products Regulations (ESPR) is a package of measures which will contribute to helping the EU reach its environmental and climate goals, doubling its circularity rate of material use and achieving its energy efficiency targets by 2030.

The LEED Green Building Rating System (LEED certification) is a globally recognized measure of sustainability for buildings
and communities.

Five elements of the Omya sustainability toolkit

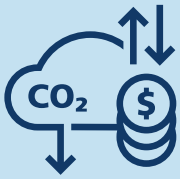
Enhancing sustainability goes beyond lowering carbon footprint. Since 1884 Omya has supported customers in understanding and meeting the needs of their markets.

From decarbonization to dehazardization, circularity to safety, and much more, we can help you make your formulations more sustainable.

1 Decarbonization – costs/performance

- Boost performance, improve opacity, and reduce formulation costs while lowering your carbon footprint
- Recycled minerals with a lower carbon footprint
- Reduce emissions and improve health and safety with lightweight fillers

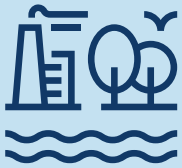
ChameleoBoost™
Omyaloop™ FC
Omyasphere®



2 Dehazardization

Reduce substances of concern and replace hazardous materials in your formulations.

- Water-based products can be eco-labelled by moving to reduced biocide content solutions with long-term effectiveness
- Non-silica based matting solutions help reduce health and safety risks



Omyasmart™
Omyamatt®

The five elements of sustainable paint

3 Circularity

Omya is committed to the concept of recyclability by design. Our environmentally friendly materials help formulators to develop paints with increased recycled content. Incorporating UL validated functional fillers allows you to make sustainability claims.

Omyaloop™ FC



4 Comfort

Create healthier working conditions with lightweight fillers, providing reduced weight and easier application. They also enhance comfort through improved thermal insulation, leading to energy savings.

Omyasphere®



5 Formulation intelligence powered by AI

Achieve reformulation efficiency and accelerate go-to-market for sustainable solutions with our fully automated lab, powered by advanced AI-driven formulation intelligence.

Flexshuttle



Your complete sustainability partner: combining sustainable products with technical expertise and support

Today's paint challenges demand more than individual products – they require integrated solutions. Omya's toolkit delivers this by combining our innovative sustainable product portfolio with comprehensive technical expertise and support.
This powerful combination of products and knowledge ensures your success in developing high-performance, sustainable paints.

Product portfolio



Omyaloop FC
Certified 100% recycled functional additive (mass averaging); high-brightness and fine-grade options available.



Omyasmart
The alternative to biocides among multifunctional neutralizing agents, with a triple effect combining elevated pH value, pH buffering and salt technology.



ChameleoBoost Technology
Omya's unique technology to optimize opacity, balance formulation cost and reduce carbon footprint.



Omyasphere
Lightweight fillers with high solar reflective index and thermal insulation properties, which reduce paint weight by up to 40%.



Omyamatt
The non-silica-based matting agent supporting high opacity, stain resistance, whiteness, and low yellowness.



Flexshuttle
The first fully automated formulation laboratory for the mineral industry for faster evaluation, creative solutions, and efficient processes.

Technical support

To meet the demands of end users, paint producers must offer a range of options. From durability to affordability, stain resistance to hiding power, modern paints must deliver high performance while minimizing environmental impact.

Omya's global technical expertise will support you in meeting your goals. This includes our advanced Flexshuttle automated testing system, enabling rapid formulation development with up to 50 samples per day.

Product portfolio: the physical tools in detail



ChameleoBoost™ Technology
Cost & performance optimization

Decarbonization – cost/performance

Rising TiO_2 costs and environmental regulations create a dual challenge: maintaining paint performance while reducing formulation costs and carbon footprint.

ChameleoBoost™ Technology addresses this by optimizing opacity and TiO_2 content in your formulations, enabling you to achieve both economic and environmental goals without sacrificing quality.

The challenges for water-based decorative paints

13 CLIMATE ACTION



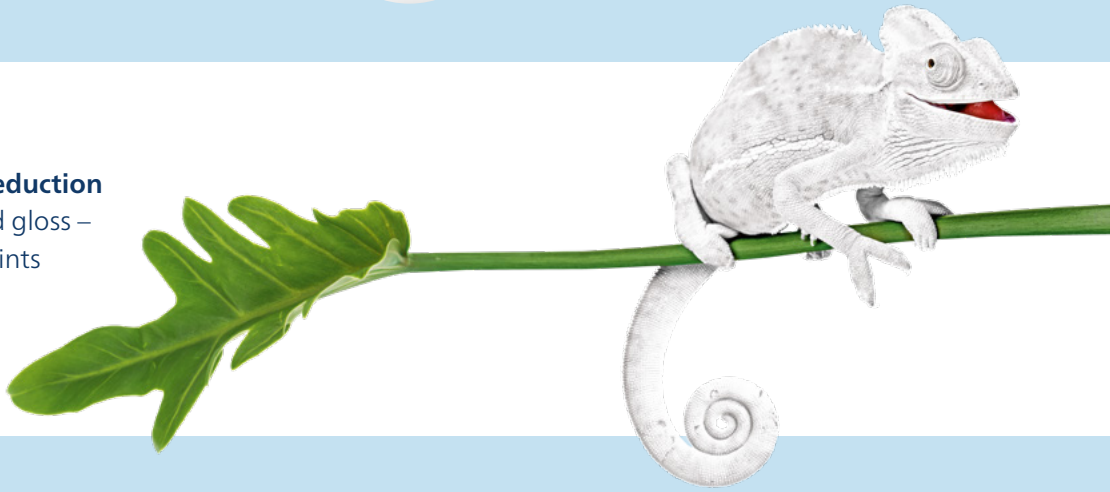
Cost reduction
- Reduce formulation costs
- Stay competitive
- Speed up trials with digitalization



Sustainability
- Lower carbon footprint
- Minimize environmental impact
- Reduce volatile organic compounds (VOCs)

Benefits

Carbon footprint and cost reduction
- Boosting opacity at required gloss – from matte to high gloss paints
- Effective TiO_2 and partial binder substitution
- High brightness



Omya related mineral solutions

UFGCC
Ultra fine ground $CaCO_3$
- Dry: Omyacarb®
- Slurry: Omyaspace®

UFGCC strengths
for water/solvent-based, interior/exterior paints:
- Extra high gloss
- Easy to disperse
- Simplicity in production
- Suitable for all paint types

MCC
Modified $CaCO_3$
- Omyabrite

Omyabrite strengths
for water-based matte paints:
- Enhanced TiO_2 extension
- Excellent balance between high opacity and low sheen
- Significant cost savings



Reduce formulation cost and carbon footprint while maintaining paint properties by replacing TiO_2, binder or clay

Improve opacity, wet scrub and gloss performance at the same formulation cost

Reformulation with UFGCC slurry in low PVC (gloss)

Materials	Control	Optimized
Water + additives	30.50	36.00
TiO_2	**23.50**	**22.50**
1 micron GCC	11.00	
Omyacarb UF-FL		**9.50**
Binder	**35.00**	**32.00**
Total	**100.00**	**100.00**
PVC [%]	38.10	38.30

Results	Control	Optimized
Y brightness	92.10	92.00
Contrast ratio	96.00	95.80
Yellow index	0.90	0.60
60 Gloss	9.30	10.80
80 Gloss	32.90	57.80

Advantages

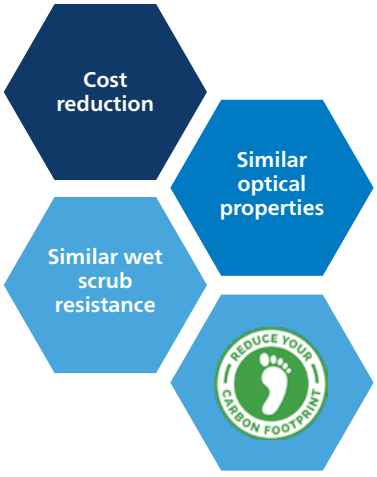
- Reduction of TiO_2 amount
- Reduction of binder content
- Similar contrast ratio
- Optimization of fillers packing
- Around 7% cost savings

Materials	Control	Optimized
Water + additives	44.70	44.24
TiO_2	**12.80**	**11.50**
0.7 micron GCC	2.50	2.50
Omyspace 400-PT Slurry		**1.76**
Binder	**40.00**	**40.00**
Total	**100.00**	**100.00**
PVC [%]	18.00	18.00

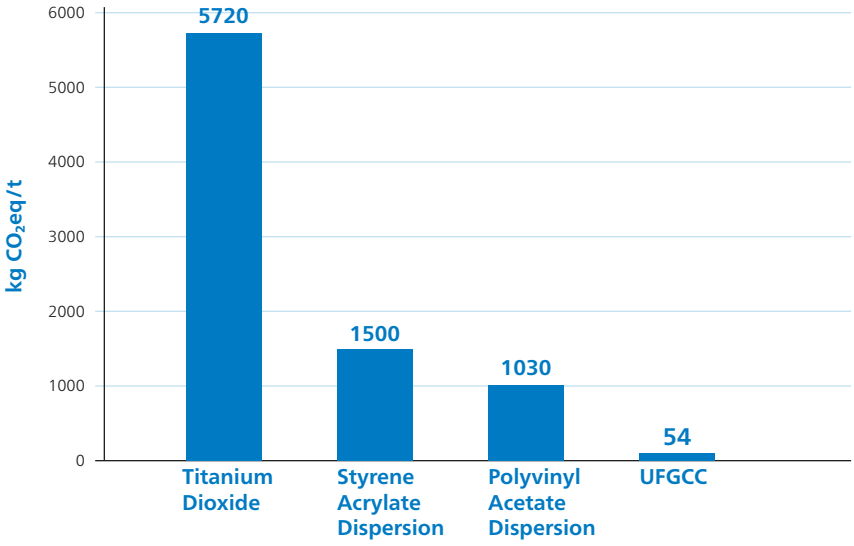
Results	Control	Optimized
Y brightness	95.80	95.70
Contrast ratio	98.60	98.60
Delta E tinted		0.30
20 Gloss	16.00	14.00
60 Gloss	56.00	54.00

Advantages

- Reduction of TiO_2
- Almost similar optical properties
- Minimal impact on tinted Delta E
- Optimization of fillers packing
- Around $.10 / gal cost savings
- Double TiO2 = $.20 / gal cost savings



Target high carbon footprint contributors



Dehazardization

Omyasmart

The smart alternative for stabilizing water-based systems

Omyasmart products are multifunctional neutralizing agents developed for long-term stability in water-based applications. Omyasmart Technology combines elevated pH and pH buffering to improve the long-term stability of water-based systems.

Omyasmart Technology is based on odorless and emission-free powders, avoiding the inhalation of toxic gases during application, enhancing worker safety.

The challenges for stabilizing water-based decorative paints

3 GOOD HEALTH AND WELL-BEING

Regulatory

- Biocides create significant health hazards
- New regulations limit the use of hazardous substances
- Product shelf life is affected

Sustainability

- Minimize the use of biocides
- Increase paint shelf life
- Eliminate VOC, emissions and odors

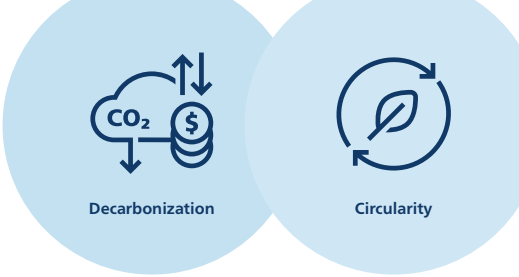
Benefits

- pH stabilization
- Robust shelf life
- Allows low-biocide formulations
- Improvement of bioavailability of biocides
- Contributes to hazard-free labelling
- Odorless, no discoloration, zero emissions
- Compliance with the criteria for awarding the most important Eco labels in the US / CAN and EU
- Suitable for allergy sufferers



Certified

Astma-Allergi Danmark · GEV-EMICODE EC 1 PLUS very low emission · NF ENVIRONNEMENT · Blauer Engel · EU Ecolabel www.ecolabel.eu · NORDIC SWAN ECOLABEL



Omyaloop FC
Certified recycled functional additive

Omyaloop FC is UL validated as made of or allocated 100% recycled material (mass averaging). Along with its fine particle size with high-brightness options available, Omyaloop FC provides application flexibility while increasing your pre-consumer recycled content.

Omya's global and local manufacturing network supports sustainability by enabling shorter supply chains, reducing freight-related emissions, and ensuring a reliable, consistent supply.

The challenges of the circular economy

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

The circular economy aims to regenerate nature, minimize waste and promote the sustainable use of natural resources through smarter product design, longer use and recycling.

There is demand from both the industry and the EU under its Green Deal to enhance the recycled content of paints and coatings products.

Benefits

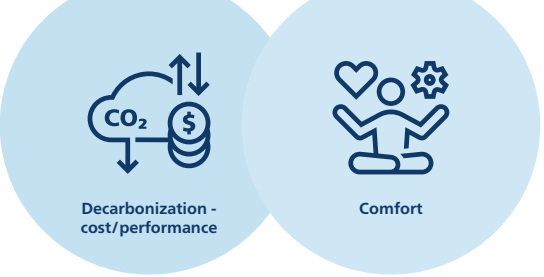
- Selected high purity calcium carbonate from certified pre-consumer recycled sources
- High brightness untreated and treated product grades available in multiple particle sizes
- UL validated to be made from or allocated 100% recycled material (mass average)
- High-purity raw material covering a broad application spectrum
- Lower carbon footprint compared with regular Ground Calcium Carbonate (GCC) options available



Certified

UL VALIDATED
OMYALOOP SFC-PT HAS BEEN ALLOCATED 100% RECYCLED CONTENT USING MASS AVERAGING SYSTEM
UL.COM/ECV

Omyasphere
Lightweight solutions



Raised temperatures as a result of climate change have significantly increased the use of air conditioning in buildings, which can account for one third of total energy consumption.

There is greater demand for technologies that reduce emissions from both energy use and transport, while also improving health and safety for those working in the sector.



The challenges

Climate & energy
- Climate change drives increased building temperatures
- Air conditioning accounts for ⅓ of total energy consumption
- Need to reduce energy- and transport-related emissions

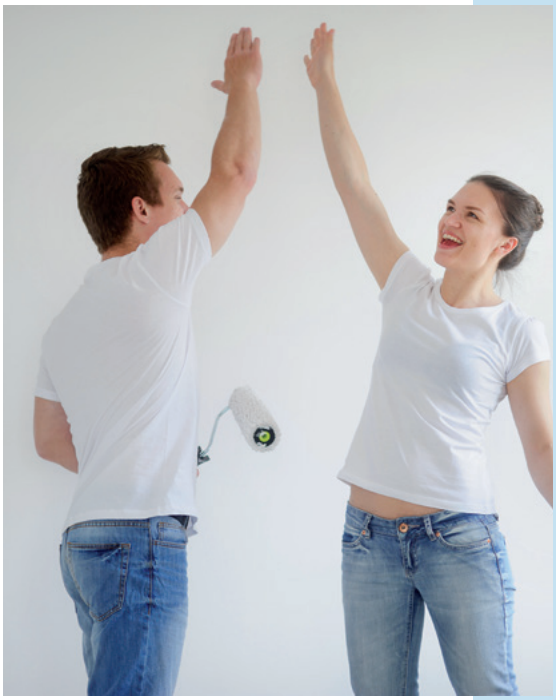
Material performance
- Need for better insulation properties
- Requirement for high reflective coatings
- Weight reduction while maintaining performance

Operational performance
- Health and safety concerns for workers
- Demand for improved working conditions

Benefits

Climate & energy
- Weight reduction at the same spread rate; less material to carry → healthier and safer
- Increased yield (spread rate at same weight) lowering cost /m^2 → doing more with less
- Improved workability, sag resistance and easier sandability → ease of application
- Lower dosage vs. expanded glass, cenosphere → lower cost-in-use
- Transportation savings and CO_2 reduction during transportation phase
- Increased solar reflective index and better thermal insulation → less heat build up and energy savings





Many applications, one portfolio: Omyasphere series

Omyasphere is a complete solution portfolio based on closed-cell expanded perlite and hollow glass microspheres to support your applications.

You can choose from:

- **Omyasphere 200** closed-cell expanded perlite
- **Omyasphere 400** higher resistance closed-cell expanded perlite
- **Omyasphere 900** hollow glass microspheres

Omyasphere is ideal to support carbon footprint reduction. Omyasphere also helps reduce thermal conductivity and related energy consumption, for improved well-being and resource consumption reduction. Lower weight also means CO_2 emissions reduction during transportation of the end products.

Omyasphere facilitates the recycling of building materials.

Omya case study

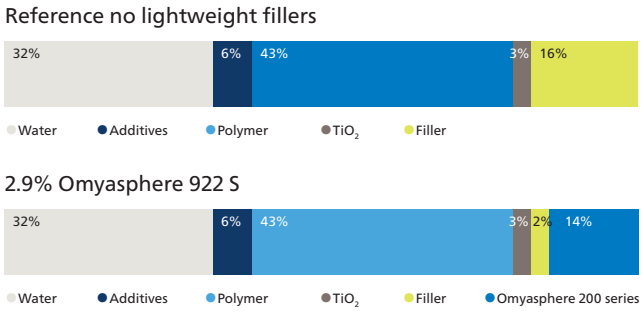
The gains of cool roofs and high reflective coating

Roof coating density 1.1 Kg/L

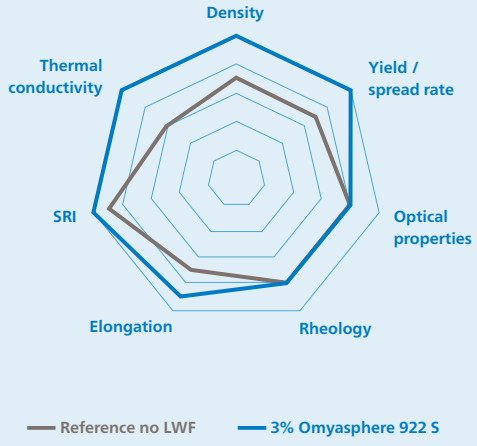
	1.1 kg/L (PVC ~46%)
Component	**% by weight**
Water	30.56
Dispersing agent 1	0.53
Dispersing agent 2	0.38
pH regulator	0.11
Rheology modifier 1	0.54
Defoamer	0.14
Coalescent agent	0.77
PP glycol	2.67
Omyacarb 10-GU	3.03
Optiwhite	3.23
TiO_2	**10.79**
Acrylic polymer	43.39
Biocide	0.23
Omyasphere 922 S	**2.87**
Defoamer	0.23
Rheology modifier	0.53
Total	**100.00**

	Yield per 25kg	Yield per 100kg thickness ~ 1 mm
Standard roof coating compound Density ~ 1.5 kg/l	yields 17L	100 kg yields ~ 68m²
Lightweight roof coating Density ~ 1.1 kg/l	yields 23L	100 kg yields ~ 91m²

Volume (%) roof coating reference



Performance benefits



Dehazardization

Omyamatt

Modified calcium carbonate technology to reduce health and safety risks

Silica-based matting agents contain very small, respirable crystalline silica particles. Exposure to this hazardous material risks workers' health as breathing in these particles can cause lung disease. Omyamatt modified calcium carbonate has an optimized particle shape and surface structure which replaces silica, providing high matting efficiency without the health risk. We offer two grades with different particle sizes, sheen levels and surface touch.

3 GOOD HEALTH AND WELL-BEING

13 CLIMATE ACTION

The challenges

Worker health & safety
- Health risks from respirable crystalline silica
- Exposure to hazardous particles during application
- Risk of lung disease from particle inhalations

Regulatory & market demands
- Growing workplace safety regulations
- Need for safer alternatives to silica
- Industry shift away from hazardous materials

Material performance
- Need for effective matting efficiency
- Maintaining high opacity standards
- Ensuring consistent product quality
- Achieving desired sheen levels



Benefits

Technical benefits
- High matting effiency
- Supports opacity and stain resistance
- High whiteness, low yellowness

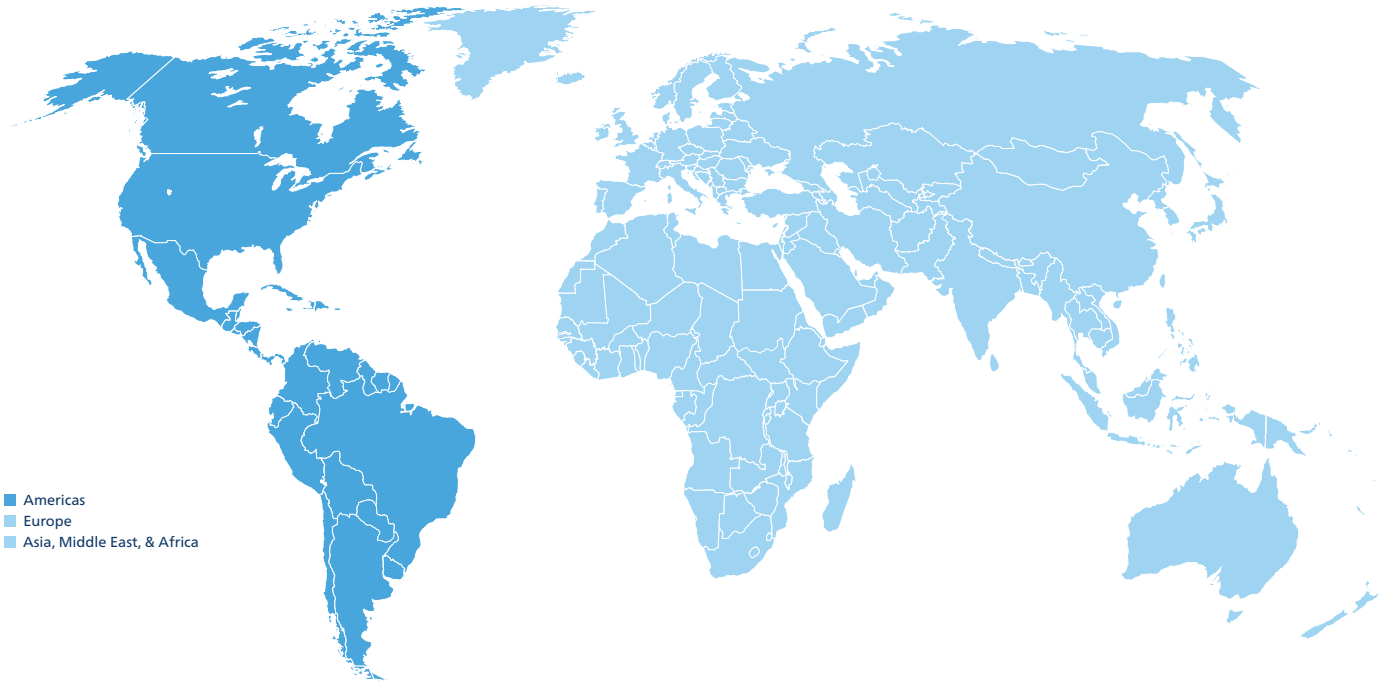
Sustainability benefits
- Non-harmful to health (non-silica based)
- Enables classification of end products as non-harmful
- Renewable energy used for production

Operational benefits
- High-quality consistency
- Supply reliability / sourcing advantage
- Easier and safer use in production
- Outstanding bulk flow for easy handling
- Low abrasion – less wear

Technical expertise: the knowledge tools



Technical support & implementation



With technical laboratories at our headquarters in Switzerland, and dedicated regional technical service hubs throughout Europe, the Americas, Middle East and Asia, Omya offers laboratory analysis, reformulation support and implementation assistance to customers worldwide to deliver comprehensive and sustainable solutions with improved performance.

- Technical
- Application
- Analytical
- Regulatory

From your needs to fully designed sustainable solutions





Best in class laboratories and R&D centers

Flexshuttle: speed to market

The first fully automated formulation laboratory for the mineral industry for faster evaluation, creative solutions, and efficient processes.

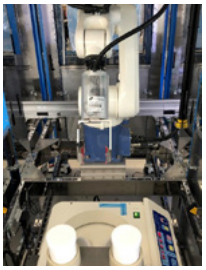
AI
Formulation intelligence powered by AI



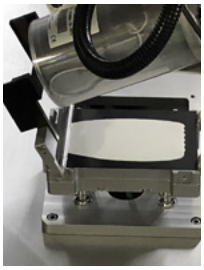
The challenge of keeping up with rapidly changing regulations

Paint producers are subject to regulations which change regularly and quickly.

Reformulating paints to remain compliant is an ongoing challenge, especially for customers with less access to laboratory resources for innovations.


Planetary mixer


Vessel storage


Drawdown

Benefits

- Reduces time to market significantly
- Accelerates innovation
- Promote digitalization
- Offers faster and broader service for our customers

With Omya highly automatized High Throughout Experimentation (HTE or Flexshuttle) you can adapt to regulations and reformulate more efficiently with faster go to market access

- 5 performance tests
- Up to 50 samples per day / 17 modules
- pH / rheology
- Hiding power / CIE L*a*b*
- Gloss 20°, 60° and 85°
- Haze on paint films at 20°
- Wet scrub resistance



Your toolkit assets

Product portfolio



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Your sustainability notes

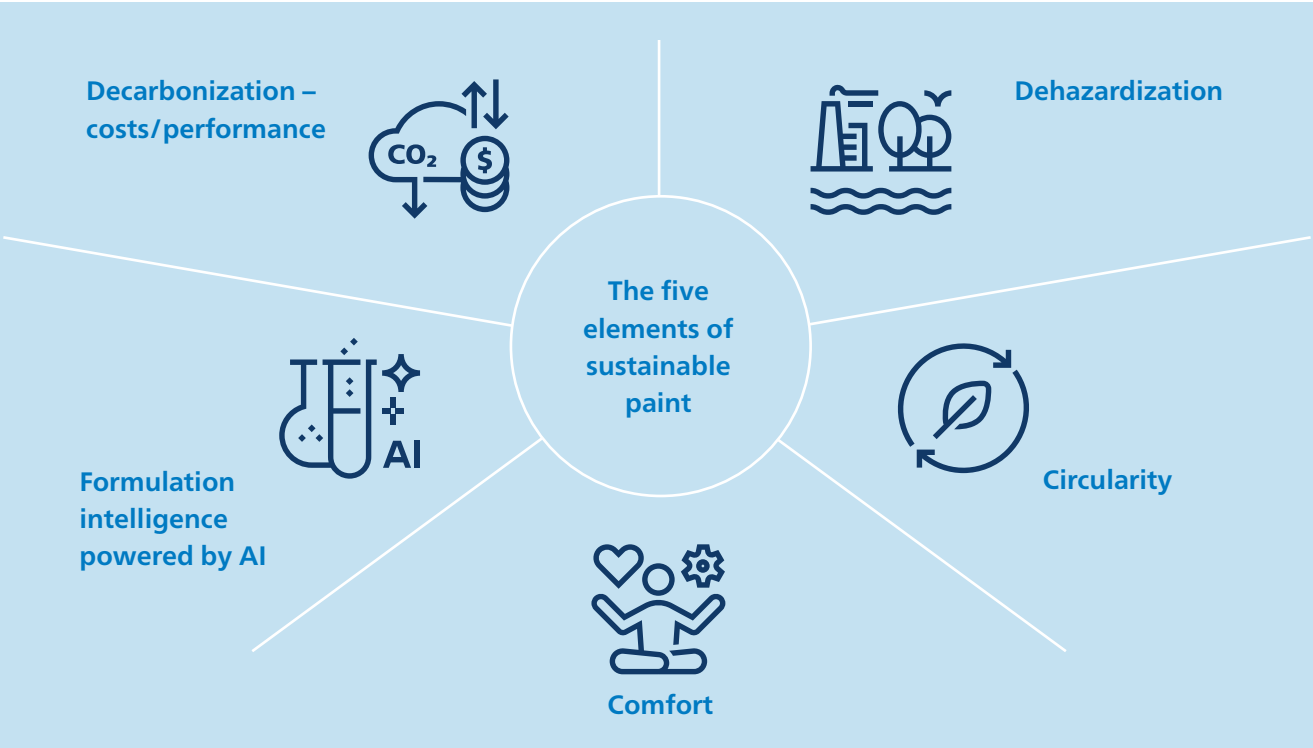
Five elements of the Omya sustainability toolkit

The Omya sustainability toolkit offers formulation solutions for future-oriented sustainable paints and coatings.

All our product offerings reflect our worldwide expertise and are designed to help you stay ahead of regulations.

Omya supports your sustainability goals not only through cost and carbon footprint reduction, but also through circularity, dehazardization, health and safety, and formulation intelligence.

Let our worldwide technical experts support you in selecting, formulating and implementing sustainable paint solutions. Through our network of laboratories and dedicated regional hubs, we provide comprehensive support from initial analysis to final implementation.



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