



Achieving “green” goals together.
Greenability

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Greenability



“Green”.

“Green”. What does this actually mean?

A global industrial standard that precisely defines what “green” means does not yet exist. However the buzzword everybody talks about is “green.” All of us have a certain perception of what it means and the demand for “green” keeps growing. It is therefore not surprising that for quite a while there has been a “green” influence in the development of new products in all industrial sectors. After all, “green” simply means environmentally friendly.

In the chemical industry the development of new products is also affected more and more by requirements arising from environmental laws. The growing “green” awareness among consumers is also accelerating the trend toward more environmentally friendly systems.

What is environmentally-friendly?

The VOC content of products and raw materials certainly is one of the most important and decisive indicators of how “green” a product is. However, the deciding factors are often the environmental friendliness of a product based on the various eco-labeling systems that are in existence and the percentage of renewable materials in the product.

Formulators still have to ask themselves: which specific requirements have to be met in developing “green” systems, which raw materials are especially suitable to meet these requirements, and where can these materials be best procured? In addition, they also want to be certain that the use of environmentally friendly raw materials does not adversely impact performance of the final product.

To support our customers in all of these concerns, and to provide answers to any possible “green” questions, BYK has assessed the entire topic comprehensively and has coined the term **“Greenability”**.

At BYK we have known for a long time that quality and environmental friendliness are not mutually exclusive. Quite the contrary: We already offer numerous products and technologies that meet current environmental standards without sacrificing BYK’s customary high quality.



Achieving “green” goals together.

Greenability.

Our customers can count on us when it comes to meeting the “green” challenge, because we make it possible for them to develop and produce environmentally friendly products.

For decades we have featured additives for environmentally friendly systems in our product line, and today we systematically devote more than 50 % of our research and development activities to them. By environmentally friendly systems, we mean water-borne systems, high-solids, solvent-free and VOC-free systems, powder coatings as well as radiation curing systems. Furthermore, we are continually increasing the percentage of renewable raw materials. Additionally BYK additives have always been known to deliver high performance and quality.

Our diverse product portfolio and our profound expertise allow us to fully support our customers when it comes to manufacturing environmentally friendly products.

We help our customers achieve their
“green” goals through our knowledge,
our service and our range of products.
That’s greenability.



No excuses! No volatiles!

VOC-free. Volatile organic compounds.

One of the crucial factors in selecting additives for “greener” formulations is the VOC content.

Consider how environmental damage caused by VOCs has increased rapidly over the past century. The world’s ever-increasing traffic volume is certainly contributing to this development, but by far the greatest contributor is the construction industry: sealants, adhesives, coatings, and floor coverings all release VOCs into the atmosphere; the air quality in building interiors is also significantly impacted by VOCs.

More and more manufacturers are pursuing the goal of combating growing VOC pollution by developing innovative VOC-free solutions.

With targeted investments and an increasing number of new VOC-free products, BYK has once again succeeded in cutting the VOC content of its portfolio.

And we will keep working on it!

Need information on VOC-free products for your application?

Our Green Experts will be glad to assist you further:
GreenExperts.BYK@altana.com

Looking for the right VOC-free product recommendations?
Our **Product Guide L-G 20 “Additives for Greener Coatings”**, or www.byk.com/greenability, offer VOC-free additive recommendations for your application.



Blazing the eco-trail. Making environmental statements.

Eco-label.

Product labels are very important in communicating successful new product developments and setting products apart from the competition.

Increasingly, purchase decisions by environmentally conscious end users are supported and influenced by eco-labels awarded by independent institutions and testing associations. Manufacturers can apply for a label of this type to distinguish products that are particularly friendly to the environment within their product group.

Throughout the world there are many different eco-labels based on different evaluation criteria.

Like the final products, raw materials for paint and plastic systems also have to meet the criteria of the given eco-label. Because they constitute only a small percentage of the overall formulation, additives have a minor impact on the evaluation of a product to determine if it meets the requirements for bearing an eco-label. However, the additives can not contain any banned substances. In addition the content of substances restricted by law, such as aromatic VOCs, must be as low as possible as well.

A large number of BYK additives already meet the requirements of the European eco-label for interior and exterior paints and coatings. Our website www.byk.com/ecolabel provides a comprehensive list of all BYK additives that meet the requirements of the European eco-label for interior and exterior paints and coatings.

Have any questions about the subject of eco-labels? Our Green Experts will be glad to help you:
GreenExperts.BYK@altana.com



High-performance by nature.

Additives from renewable materials.

The percentage of renewable materials in a product is another essential key indicator used to evaluate the eco-friendliness of a product. This factor also plays an important role in the development of eco-friendly systems.

Thanks to its intensive product and application research, BYK now offers its customers a comprehensive portfolio of additives that are based on renewable materials.

What exactly do we mean by renewable resources?

A natural resource is considered to be renewable when it is replaced by means of natural processes at a rate that is comparable to, or faster than, the rate at which it is consumed by humans.

Various inorganic substances are considered to be "neutral" if they are not affected by combustion or biological decomposition, such as water or silicon dioxide.

Looking for information on additives based on renewable materials?
We have detailed information for you on our renewable material-based additives in our **Product Guides B-G 5** and **CM-G 20** or at www.byk.com/renewable

Would you like to talk to a specialist on this topic?
Our Green Experts will be glad to assist you further:
GreenExperts.BYK@altana.com.



“Green” questions. “Green” facts.

BYK additives for environmentally friendly formulations.

Why are there no BYK recommendations for additives in this brochure?

The purpose of this brochure is to provide comprehensive information on “green” subjects. We would like to work together with you to help you achieve your “green” goals. Therefore, a detailed description of our environmentally friendly additives and technologies is beyond the scope of this brochure. In fact, it would be impossible, given the countless environmental requirements that have to be met and the various business goals that have to be considered before making a valid and reliable additive recommendation. The next step would be to review your “green” requirements and specifications individually, focusing on specific needs, in order to arrive at custom additive solutions.

How can BYK specifically help you to meet “green” objectives?

Constant contact with our customers, years of experience and comprehensive know-how not only constitute the foundation of our success in the marketplace, they are the basis of our “green” competence. Thanks to our intensive research and development work and the broad range of products that it has generated, we are able to offer our customers a multitude of “green” solutions that do not sacrifice the customary quality of our high-performance products. We are therefore able to work with you to find the right additive solutions and to meet your specific “green” goals.

Does BYK produce “green” additives?

BYK produces additives for environmentally friendly formulations. By “green” we mean solvent-free and VOC-free systems, water-borne and radiation curing systems, high-solids systems and powder coatings. In other words, BYK understands the “green” challenge and is focusing its extensive research and development activities on the goal of making your systems eco-friendly.

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Does BYK also offer additives based on renewable materials?

The development of coatings and plastics based on renewable resources is becoming increasingly important, and the call for additives based on renewable materials is growing increasingly louder. Many of our products and technologies are already based on renewable materials. Thanks to our intensive product and application research, we are continually expanding our portfolio in this direction as well.

Do BYK’s “green” additives mean a loss in quality?

BYK products have always been high-performance products; this, of course, also applies to our additives for environmentally friendly “green” systems. Our customers can continue to count on BYK’s high quality.

How do additives affect the eco-balance?

Most BYK additives are used at concentrations of < 1 % in the final product. Their chemical structures and manufacturing processes are largely comparable to those of other raw materials. Similarly, their transportation ways correspond to those of the main components of the final products. This assures that additives do not have any significant impact on the overall eco-balance. Quite the contrary: sometimes they extend the life of the final product and thereby positively influence the eco-balance.

BYK products have always been high-performance products. This, of course, also applies to our additives for environmentally friendly “green” systems. It goes without saying that our customers can continue to count on BYK’s customary high quality.



B-1



L-G 20



B-G 5



CM-G 20



• **Greenability Overview B-1:**

We help our customers achieve their “green” goals through our knowledge, service and range of products.

• **Product Guide L-G 20: Additives for “Greener” Coatings**

Summary of BYK additives that can be used for the formulation of “greener” coating systems.

• **Product Guide B-G 5: Additives Based on Renewable Raw Materials**

Summary of BYK additives with details regarding the percentage of renewable resources.

• **Product Guide CM-G 20: Additives for “Greener” Closed Mold Applications**

Summary of BYK additives that can be used for the formulation of “greener” closed mold applications.

Products and Applications

BYK Additives

Product Range Additives:

- Additives to improve surface slip, leveling and substrate wetting
- Adhesion promoters
- Defoamers and air release agents
- Processing additives
- Rheological additives
- UV-absorbers
- Viscosity depressants
- Wax additives
- Wetting and dispersing additives for pigments and extenders

BYK-Chemie GmbH

P.O. Box 10 02 45
46462 Wesel
Germany
Tel +49 281 670-0
Fax +49 281 65735

info@byk.com

www.byk.com/additives

Application Areas:

Coatings Industry

- Architectural Coatings
- Automotive Coatings
- Industrial Coatings
- Can Coatings
- Coil Coatings
- Wood & Furniture Coatings
- Powder Coatings
- Leather Finishes
- Protective & Marine Coatings

Plastics Industry

- Ambient Curing Systems
- PVC Plastics
- SMC/BMC
- Thermoplastics

Printing Ink Industry

- Flexo Inks
- Gravure Inks
- Silk Screen Inks
- Offset Inks
- Overprint Varnishes

Paper Coatings

- Impregnation
- Coatings

Adhesives & Sealants

Construction Chemicals

Pigment Concentrates

Raw Materials for Manufacturing of Release Agents

BYK Instruments

BYK offers a complete line of testing instruments to meet your needs in many application areas:

- Gloss/Appearance
- Color

Portable or stationary laboratory equipment – including easy-to-use quality control software.

BYK instruments – the complete solution for the coatings and plastics industry.

BYK-Gardner GmbH

P.O. Box 970
82534 Geretsried
Germany
Tel +49 8171 3493-0
+49 800 427-3637
Fax +49 8171 3493-140

info.byk.gardner@altana.com

www.byk.com/instruments

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