BYK
Additives & Instruments

Product Guide L-G 20

# Additives for “Greener” Coatings

Greenability

A member of ALTANA

# BYK Additives for “Greener” Coatings

The following table shows our portfolio of additives, selected for their ability to achieve “greener” coatings without sacrificing performance. The decisive criterions being the additive’s VOC and SVOC contents. Details of environmentally-relevant properties are explained in the following text:

**VOC content**
VOC (= Volatile Organic Compounds) is measured with headspace gas chromatography by analyzing the gas composition in the space above the sample (= headspace) inside the chromatography vial after an equilibration time of 60 min at 100 °C. The table shows the total amount of all detected volatile organic components up to C16 in ppm. The impact on the VOC content of the coating can be easily calculated from these data.

**SVOC content**
The SVOC (Semi Volatile Organic Compounds) content of the additive is determined using the methods prescribed by the “DIN EN ISO 11890-2:” standard. The values measured help the product manufacturer calculate the SVOC content of the end product, which is often essential when applying for an Ecolabel.

**Preservatives**
Many aqueous additives require preservatives to avoid microbial attack. If a preservative is required, BYK uses MIT (= Methylisothiazolinone, CAS 2682-20-4) and BIT (= Benzisothiazolinone, CAS 2634-33-5), which have been widely used in the industry.

**Ecolabel**
Several manufacturers are doing their utmost to fulfill strict assessment criteria so that their products can be given an Ecolabel for specific environmental friendliness. When making the application, a wide range of forms, among other things, need to be submitted to the competent institutions.

We help with this and provide specific documents for selected additives. Ask us about it now!

Looking for information on additives based on renewable raw materials?
We have detailed information for you 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.**

Looking for suitable additives for greener coating systems?
Please find our product recommendations at **www.byk.com/greenability.**

| Additive | VOC content (ppm) | | | SVOC content (g/l) | Preservative* |
|---|---|---|---|---|---|
| | <1500 | 1500–5000 | >5000–10000 | | |
| **Wetting and Dispersing Additives** | | | | | |
| ANTI-TERRA-250 | | ■ | | < 1.5 | |
| BYK-154 | ■ | | | < 1.5 | |
| DISPERBYK-102 | | ■ | | 10–20 | |
| DISPERBYK-109 | | ■ | | < 1.5 | |
| DISPERBYK-190 | ■ | | | < 1.5 | ■ |
| DISPERBYK-191 | ■ | | | 10–20 | |
| DISPERBYK-192 | ■ | | | < 1.5 | |
| DISPERBYK-199 | ■ | | | < 1.5 | ■ |
| DISPERBYK-2012 | | ■ | | 5–10 | ■ |
| DISPERBYK-2015 | ■ | | | < 1.5 | ■ |
| DISPERBYK-2060 | | ■ | | 20–30 | |
| DISPERBYK-2061 | ■ | | | 1.5–5 | |
| DISPERBYK-2062 | ■ | | | 1.5–5 | |
| DISPERBYK-2096 | ■ | | | 5–10 | |
| DISPERBYK-2152 | | ■ | | 10–20 | |
| **Defoamer** | | | | | |
| BYK-012 | ■ | | | 1.5–5,0 | |
| BYK-014 | ■ | | | 1.5–5.0 | |
| BYK-015 | | ■ | | 1.5–5 | |
| BYK-016 | ■ | | | < 1.5 | |
| BYK-017 | | ■ | | 1.5–5 | |
| BYK-018 | ■ | | | 1.5–5 | |
| BYK-021 | ■ | | | 1.5–5 | |
| BYK-022 | ■ | | | 1.5–5,0 | |
| BYK-024 | ■ | | | 1.5–5.0 | |
| BYK-028 | ■ | | | < 1.5 | |
| BYK-035 | ■ | | | 1.5–5 | |
| BYK-037 | ■ | | | < 1.5 | ■ |
| BYK-038 | ■ | | | 20–30 | |
| BYK-039 | ■ | | | 10–20 | |
| BYK-044 | ■ | | | 1.5–5 | ■ |
| BYK-093 | ■ | | | < 1.5 | |
| BYK-094 | ■ | | | < 1.5 | |
| BYK-1611 | ■ | | | < 1.5 | ■ |
| BYK-1617 | ■ | | | < 1.5 | ■ |
| BYK-1640 | ■ | | | 1.5–5.0 | ■ |
| BYK-1650 | ■ | | | 1.5–5 | ■ |
| BYK-1719 | ■ | | | < 1.5 | |
| BYK-1723 | ■ | | | < 1.5 | ■ |
| BYK-1724 | ■ | | | < 1.5 | ■ |
| BYK-1730 | ■ | | | 5–10 | |
| BYK-1740 | ■ | | | 5–10 | |
| BYK-1780 | ■ | | | 1.5–5 | |
| BYK-1781 | ■ | | | 1.5–5 | |
| BYK-1785 | ■ | | | 1.5–5 | ■ |
| BYK-1788 | | ■ | | < 1.5 | |
| BYK-1794 | ■ | | | 1.5–5 | |
| BYK-1799 | ■ | | | < 1.5 | |

*unmarked products are preservative-free

| Additive | VOC content (ppm) | | | SVOC content (g/l) | Preservative* |
|---|---|---|---|---|---|
| | <1500 | 1500–5000 | >5000–10000 | | |
| **Surface Additives, Silicone-based** | | | | | |
| BYK-307 | | | ■ | < 1.5 | |
| BYK-333 | | | ■ | < 1.5 | |
| BYK-3400 | > 10,000 ppm | | | 1.5–5 | |
| BYK-3410 | > 10,000 ppm | | | < 1.5 | |
| BYK-3455 | > 10,000 ppm | | | 20–30 | |
| BYK-3760 | ■ | | | < 1.5 | |
| BYK-345 | > 10,000 ppm | | | 50–60 | |
| BYK-347 | > 10,000 ppm | | | 70–90 | |
| BYK-348 | | | ■ | 10–20 | |
| BYK-349 | | | ■ | 20–30 | |
| BYK-378 | | | ■ | < 1.5 | |
| **Adhesion Promoters** | | | | | |
| BYK-4500 | > 10,000 ppm | | | 5–10 | |
| **Reduction of Drying-out/Caking of Aqueous Pigment Concentrates** | | | | | |
| BYKETOL-PC | ■ | | | 90–100 | |
| **Surface Additives, Wax-based** | | | | | |
| AQUACER 497 | ■ | | | < 1.5 | ■ |
| AQUACER 501 | | ■ | | 1.5–5 | ■ |
| AQUACER 531 | ■ | | | < 1.5 | ■ |
| AQUACER 593 | | | ■ | < 1.5 | ■ |
| AQUACER 1013 | ■ | | | < 1.5 | ■ |
| AQUACER 1039 | ■ | | | 1.5–5.0 | ■ |
| AQUAMAT 208 | ■ | | | < 1.5 | ■ |
| AQUAMAT 272 | | ■ | | 1.5–5 | ■ |
| AQUATIX 8421 | ■ | | | < 1.5 | ■ |
| CERAFLOUR 913 | | ■ | | 5–10 | |
| CERAFLOUR 914 | | ■ | | 1.5–5,0 | |
| CERAFLOUR 927 | | ■ | | 5.0–10 | |
| CERAFLOUR 929 | | ■ | | 1.5–5.0 | |
| CERAFLOUR 1000 | ■ | | | < 1.5 | |
| **Rheology Additives** | | | | | |
| BYK-7420 ES | > 10,000 ppm | | | 300–350 | |
| OPTIFLO-H 3300 VF | ■ | | | < 1.5 | ■ |
| OPTIFLO-H 6500 VF | ■ | | | 5–10 | ■ |
| OPTIFLO-H 7500 VF | ■ | | | 5–10 | ■ |
| OPTIFLO-H 7625 VF | ■ | | | < 1.5 | ■ |
| OPTIFLO-L 1400 | ■ | | | 1.5–5.0 | ■ |
| OPTIFLO-M 2600 VF | ■ | | | 5–10 | ■ |
| OPTIFLO-T 1000 | ■ | | | < 1.5 | ■ |
| OPTIFLO-T 1010 | ■ | | | < 1.5 | ■ |
| OPTIFLO-TVS VF | ■ | | | < 1.5 | ■ |
| OPTIGEL-WX | ■ | | | < 1.5 | |

*unmarked products are preservative-free

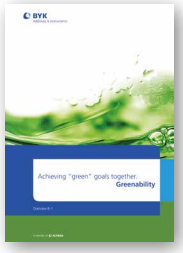
# Greenability

There is no "green" standard, which is broadly accepted by the global industry. Within BYK, "Green" refers to all activities required to support our customers' goals of achieving any specific environmental standard. Therefore we created the word **Greenability** as a definition for our engagement in environmentally-friendly systems. Greenability is our ability to help our customers develop greener products.

For decades we have had additives for environmentally-friendly systems in our portfolio and today more than 50% of our research and development activities are focused on this topic. Our understanding of environmentally-friendly systems includes additives for powder coatings, water-borne systems, high solid and 100 % solid systems, VOC-free systems. We also constantly increase the amount of raw materials derived from renewable resources.

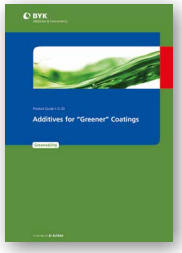
Our experience in the additive business contributes to our green expertise. Our broad portfolio offers a lot of options to create green solutions. And, our proven products have a long and trusted history of high performance. To summarize: We help our customers achieve their green goals by offering our expertise, product portfolio and exceptional quality.

B-1




B-G 5


L-G 20




- **Greenability Overview B-1:**
  We help our customers achieve their "green" goals through our knowledge, service and range of products.
- **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 L-G 20: Additives for "Greener" Coatings**
  Summary of BYK additives that can be used for the formulation of "greener" coating systems.

For more information about our additives and instruments, as well as our additive sample orders please visit:

**www.byk.com**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