

Masterbatches



Exactly your chemistry.

*Imagine the Possibilities*  
**Global Capabilities**

# *Clariant Masterbatches*

## **Global technology, local support.**



Clariant Masterbatches is a global leader in color and additive concentrates and performance solutions for the plastics industry.

Around the globe, over 50 full-service manufacturing facilities offer the most extensive portfolio of products, capabilities and technical expertise.

In the decentralized Clariant Masterbatches global network, each business operates independently and in full partnership with its customers, offering them all the advantages of a local resource: fast response, excellent teamwork, superior quality and consistent results.

At the same time, each facility is also an access point to any of Masterbatches' other local

businesses throughout the world. Our global presence and local support provide major advantages for customers whose products are designed in one region, manufactured in another, and marketed worldwide.

Clariant Masterbatches delivers products of unmatched quality and value to polymer processors and resin manufacturers, wherever they are located.

As a global technology leader, Clariant's product line is the broadest and deepest available. It includes the following:

- Masterbatches in pellet, micropellet, powder and ground pellet form.
- Single pigment concentrates that yield high pigment loading and superior color dispersion.
- Masterbatches for high-performance resins used in high-temperature and other demanding applications.



# Complete Capabilities



- ENIGMA™ special-effect masterbatches used in packaging, sporting goods, appliances, automotive, and more.
- Specialty white and black masterbatches.
- Liquid color masterbatches for use in housewares; packaging, including PET bottles; and other appropriate applications.
- Multifunction masterbatches that combine color and additive concentrates.
- Heavy-metal-free standard concentrates.
- Multipurpose concentrates that deliver quality results across a broad range of resins.
- CESA® additive masterbatches including UV stabilizers, flame retardants, antistats, processing aids, HYDROCEROL® chemical foaming/nucleating agents, and antimicrobial masterbatches, as well as custom-designed additive packages.
- Specialty and custom compounds.



## Systematic Quality Assurance

Clariant delivers consistent color from resin to resin, batch to batch, part to part, and site to site.

- Clariant's benchmarking and internal quality control systems are rigorous and comprehensive. ISO 9001:2000, QS9000, ISO 14001 are among the demanding quality standards our facilities meet.
- Our advanced computer color matching systems quickly deliver precisely the color and additive package needed. These systems use an extensive Clariant database to enable rapid and exact masterbatch formulation to meet customer requirements, including specific resin types and varying performance criteria.



- Clariant is the undisputed leader in coloring polymers for use in UL-Listed electrical products. Our concentrates have UL Component Recognition for more than 200 separate resin grades.
- Clariant global regulatory expertise also includes compliance with FDA, USDA, EU, REACH, CONEG, BgVV, JORF, NSF, JIS, JOSPFA and other important regulations and standards.



Clariant masterbatches are designed to optimize productivity in virtually every type of process, including the following:

- Injection molding
- Multilayer blow molding
- Extrusion
- Spin-dyeing
- Film extrusion
- Melt blown
- Blow molding
- Foaming
- Injection blow molding



# ColorWorks™

## Design for success.



Clariant ColorWorks™ Design and Technology Centers, strategically located around the world, offer specialized services to help product designers, engineers and brand managers achieve the aesthetics, functionality and manufacturing efficiencies that provide a competitive edge.

The importance of addressing color and performance issues in the design stage of new product development is increasing. Clariant's unsurpassed knowledge of colorants, additives and processes provides specifiers with comprehensive support as they evaluate



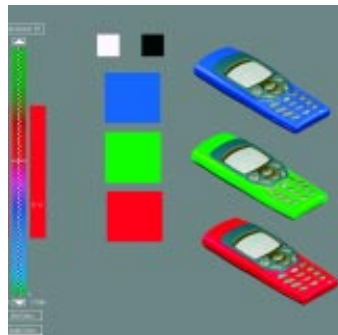
possible colorant and additive packages, part shapes, quality standards and base resin materials.

ColorWorks customers have access to unmatched plastics industry expertise and resources that reduce technical risks and control costs. Color, additive and resin combinations are developed and communicated faster, processing efficiency is increased, and design reliability enhanced. With total project roll-out and color management support from ColorWorks, products go from concept to launch more smoothly, in less time, at optimal cost.

**ColorWorks resources include sophisticated design tools, rapid prototyping, color matching, polymer technology consulting, color trending, color education and training, and color management services.**

The ability to quickly introduce unique new colors and effects bolsters the appeal of an existing product line without costly redesign and retooling. ColorWorks resources are equally invaluable in helping customers create, build and protect establishing brands.





**Clariant provides color developers with the most up-to-date color selection tools available. Sophisticated software uses selective color data coupled with imported product design CAD files to visualize parts on screen in a variety of colors, shades or effects in varying environments.**



**Color is a chemical variable that can impact both processing and performance. Expert analysis of various combinations of color, additives and polymer enable the development of the best formulation for a particular application.**

**By bringing together trend analysis, physical testing, prototyping and analytic tools, OEMs and converters can go from CAD design to product prototype to fully executed manufacturing simulation, often in just one day.**

# Appearing in a World of Innovative Products

## Expanding the Spectrum of Color Printers

Oregon-based Epson Portland Inc. switched from pre-colored resins to Clariant's "natural plus" masterbatches several years ago to reduce costs. The move is paying dividends, positioning Epson for the smaller production runs

and color changes today's consumer electronics market demands. Epson banks on developmental assistance from Clariant to do custom color in-house, a significant competitive advantage.



## Beautifying Personal Care

Headquartered in New York, Estée Lauder Companies has streamlined packaging color selection and management for its global brands by utilizing the expertise available at Clariant's worldwide ColorWorks™ Centers. The Estée Lauder product line incorporates multiple parts, processes and resins, including Post Consumer Re grind (PCR).

As early as possible in the product development cycle, the ColorWorks team assists in creating optimal color formulations for all the variables, then provides masterbatch samples and instructions for each commercial molder. Estée Lauder estimates it has cut product launch time up to four weeks by teaming with Clariant.

### Improving On-Camera Appearance

In a consumer-driven push for product differentiation, Kodak has made distinctive appearance a marketing priority for its Kodak ULTRA Single Use camera. Stringent polymer specifications, global processing complexity and recyclability issues add to the challenge. Clariant was the ideal partner to help Kodak meet its goals, combining world-class color technology with global resources and locations. Two innovative color effects developed by Clariant – metallic-accented blue denim and gray with a pink bezel – are currently being sold in Europe and Japan.



### Tanning Products That Turn Heads

When Fiji Blend, Inc. of Santa Monica, CA, needed a unique look for its proprietary line of indoor tanning products, Clariant’s shimmering “spectrachrome” effect was the answer. Based on light

refraction, “spectrachrome” creates a selective color shift that makes the two-layer HDPE “tottles” appear to change color as people walk by. Red-gold-orange, green-blue-purple, and bronze-gold-

green differentiate individual products in the comprehensive Fiji line. The highly successful special effect was developed at the ColorWorks Center in McHenry, IL.





## *For every type of plastic, in every key market...*

With a comprehensive family of global products, Clariant provides color and additive masterbatch solutions for the entire range of today's resins. Global continuity is one of Clariant's major strengths. Our technology base, market understanding and knowledge transfer are mirrored worldwide, wherever you do business.

From office automation and appliances to textiles, automotive components and packaging, designers and processors worldwide rely on leading-edge technology and in-depth support from Clariant.



REMAFIN® masterbatches for olefins provide superior color dispersion at extremely low usage levels. Available in custom colors and small lot sizes, they help optimize both product performance and processing costs.

RENOL® masterbatches provide superior processability and brilliant color for nearly all styrenics and PVC polymers. Ideal for engineering polymer applications, RENOL masterbatches maintain base resin properties while achieving the desired color appearance.

OMNICOLOR® multipurpose color concentrates can be used with a full range of commodity and engineering resins. They are available in over 100 standard colors as well as in small lots. As a result, they help to reduce both coloring costs and inventories.



HYDROCEROL® chemical foaming and nucleating agents help optimize product performance and aesthetics in applications ranging from shipping containers, food packaging and toys to multilayer films and wood-filled profiles. Suitable for use with virtually all thermoplastics and polymer blends, the HYDROCEROL family of products can reduce weight, increase insulation, improve strength-to-weight ratios, enhance appearance and facilitate processing.



### **Key Markets Served**

- |              |                     |
|--------------|---------------------|
| • Film       | • Sports & Leisure  |
| • Automotive | • Medical           |
| • Toys       | • Fibers            |
| • Electrical | • Appliances        |
| • Housewares | • Office Automation |
| • Cables     |                     |
| • Packaging  |                     |

CESA® additive masterbatches are designed to provide performance-enhancing features or to protect polymers from environmental degradation. They allow precise metering of active ingredients ranging from antistatic agents and flame retardants to light stabilizers, antioxidants, antiblock/slip agents, antimicrobials and purging compounds.

ENIGMA™ special effects offer designers and specifiers a palette of visual effects to differentiate and enhance consumer appeal. The ENIGMA family of products includes iridescents, metallics, pearlescents, fluorescents, multicolor flips, marbles, *Splash* and speckles.

The breadth and depth of our technology base ensures that Clariant always has its finger on the pulse of market dynamics. In addition, Clariant works closely with major resin producers and OEMs, as well as processors of all sizes. This broad experience helps us to be consistently on target and on time with the right answers for new applications, color and performance requirements. Clariant also stays on top of emerging trends through active participation in international color associations.



Courtesy Polaris Industries



# *Consumer Durable Goods*

## **Clariant technology is a part of life.**

From housewares, appliances and sporting equipment to office automation and medical devices, designers and manufacturers of consumer durable goods partner with Clariant to achieve the optimal balance of performance and aesthetics in their products.

Our color and additive masterbatches are specified worldwide to satisfy diverse application requirements in vastly differing markets. For example, regulatory compliance is a critical need in the medical industry. Clariant utilizes raw materials for this market that meet ISO 10903-1/USP Class VI and gamma sterilization standards. Stand-out appearance and toughness are both vital to compete in today's sporting goods arena. Clariant delivers consumer appeal with the full pallet of ENIGMA special effects, and superior endurance with our full market basket of performance-enhancing additives.

Whatever their products, wherever they are designed and made, Clariant customers benefit from our proven materials expertise, regulatory knowledge and global presence. With manufacturing facilities and technical support resources located around the world, Clariant is a valuable ally for the growing ranks of consumer durables companies that design at home but manufacture internationally.



# Automotive

## Bumper-to-bumper color and performance solutions.



As a key supplier to the automotive industry, Clariant offers an unmatched portfolio of technical excellence, worldwide presence and a commitment to application development. Working in partnership with automotive designers and OEMs, Clariant remains at the forefront of innovative and cost-effective color solutions that can range from eye-catching special effects to the elimination of online painting.

Clariant masterbatches are specified in a broad range of exterior and interior applications, including bumpers, body panels, door panels, pillar trim, safety systems, cables, instrument panels, under-the-hood components, grips, mats, buttons, carpets and upholstery. The comprehensive CESA family of additives meets stringent automotive color specifications and UV resistance requirements with both color and colorless multifunctional masterbatches that can combine colorants and additives in a single, cost-effective package.



In addition, Clariant custom formulates and compounds reinforced, impact-modified and alloyed engineering resins. These can incorporate a broad range of polymer modification technologies including conductivity, flame retardance, UV and chemical resistance, among others.



# Packaging

## At home in the dynamic world of packaging.



Clariant's technical sophistication across numerous resins and processes, including multilayer blow molding, is a key reason we are a preferred supplier to major worldwide packaging producers.

These manufacturers value our experience and knowledge of the latest consumer preferences and trends, and our global problem-solving

capability. For example, when your cap, jar and bottle are produced by different converters



in different countries, and yet require the same appearance – Clariant delivers the globally consistent, worry-free solution.

At Clariant, innovation never stops. Our color development services offer classic mass appeal effects such as ENIGMA iridescents, pearlescents, fluorescents, marbles and speckles as well as state-of-the-art effects involving texture, pattern, color movement and dazzling shelf presence. Plus, Clariant's laser marking masterbatches provide cost-efficient, indelible color marking

for a variety of packaging materials, including difficult-to-mark resins.



# *Carpet, Textiles & Upholstery*

**Clariant knows the  
fiber and yarn market.**

This market's growing range of colors and increasing use of high-end materials such as polypropylene, nylon and polyester present tough processing challenges. Sophisticated masterbatches technology from Clariant ensures both vibrant color and optimal production efficiencies.

Clariant's expertise centers on our research and development of single pigment concentrates. In these pelletized masterbatches, a single colorant is compounded to develop its maximum strength. Mixing two or more single pigment concentrates yields custom masterbatches with exceptionally high color strength and low use rates, resulting in greater processing efficiency and more brilliant color.



# Specialty Compounding

## Covering the spectrum of polymer performance.

With focused expertise in formulating and compounding high-performance engineering resins and additives, Clariant Specialty Compounding utilizes a full spectrum of advanced polymer modification technologies.

Color, strength, durability, wear, environmental resistance, UV resistance and flame resistance – whatever the application demands, Specialty Compounding delivers fine-tuned performance solutions.

Engineering and technical resources, stringent quality assurance programs and advanced manufacturing capabilities are reflected in Clariant's diverse proprietary compounds for the automotive, appliance, office automation, electronics and other specialty markets. Base resins used in these compounds include Nylon 6, Nylon 6/6, PC, ABS and PBT. Depending on specific application requirements, these base resins may be filled with a variety of pigments, glass fibers, impact modifiers, minerals or processing aids such as de-nesting agents.



In the automotive market, Clariant Specialty Compounding has more than 500 resin/color approvals covering all three industry leaders – GM, Ford and DaimlerChrysler. Specialty Compounding is also a full-service partner to leading engineering resin producers, increasing their flexibility and speed to market.

In addition to supplying high-performance specialty compounds, we can provide “total operational services” to companies seeking a

reliable partner to supplement their own production. The Clariant Masterbatches website also offers an option called Create Your Own Compound. This enables customers to develop a unique compound, receive a quote and order a sample online.

# Additive Masterbatches

## Creating opportunities for innovation.



Clariant's comprehensive line of CESA additive masterbatches offers processors unprecedented latitude to improve finished product performance while optimizing both quality and costs. These diverse additive concentrates allow precise metering of active ingredients ranging from antistatic agents and flame retardants to light stabilizers, antioxidants, anti-block/slip agents, antimicrobials and purging compounds.

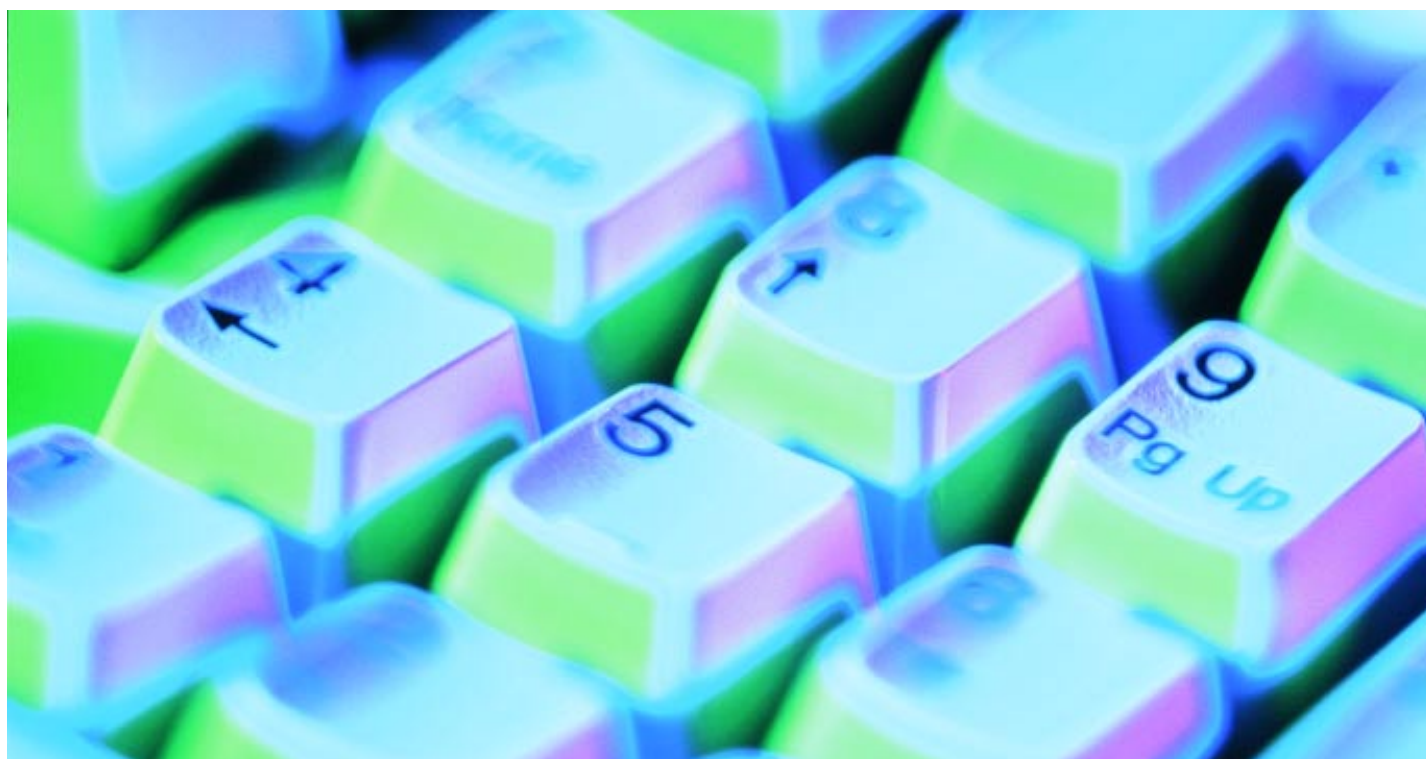
Typically, only small amounts of CESA additives are required to achieve maximum efficiency. Whatever the specific application requirements, CESA additives help create end-products that stand up to rough handling and environmental degradation by heat, UV, and oxidation. The Clariant ability to develop custom made CESA additives and the existing wide range of recipes are able to fulfill all plastic industry requirements. Static electricity, surface roughness and slipperiness, microbes and fungi preservation, process conditions improvements, and flame retardant performances



are some of the properties that are modified by the addition of CESA additives.

With the HYDROCEROL family of chemical foaming and nucleating agents, Clariant customers enjoy the benefits of weight reduction, raw material savings, improved thermal and acoustic insulation, increased wall stiffness and enhanced surface textures. Warpage and sink marks are eliminated as well.

Available in both masterbatch and powder form, Clariant chemical foaming and nucleating agents are compatible with virtually all commonly used thermoplastics and polymer blends.



## GLOBAL HEADQUARTERS

### Clariant International Ltd

Masterbatches Division  
Rothausstrasse 61  
CH-4132 Muttenz 1  
Switzerland  
Tel: +41 61 469 6170  
Fax: +41 61 469 6597

## REGIONAL HEADQUARTERS

### North America

#### Clariant Masterbatches

85 Industrial Drive  
Holden, MA 01520, USA  
Tel: +1 888 621 1282  
Tel: +1 508 829 6321  
Fax: +1 508 829 7887

### Latin America

#### Clariant (Brazil) S.A.

Av. Nações Unidas 18.001  
04795-900 Santo Amaro  
São Paulo, Brazil  
Tel: +55 11 5683 7848  
Fax: +55 11 5683 7808

### Asia/Pacific

#### Clariant Masterbatches (Thailand) Ltd.

31 Rama III Road  
Chongnonsri, Yannawa  
Bangkok 10120, Thailand  
Tel: +66 2 294 0350  
Fax: +66 2 294 1103

### Europe

#### North

#### Clariant Masterbatch GmbH & Co. OHG

Hohenrhein 1  
D-56112 Lahnstein, Germany  
Tel: +49 2621 14 222  
Fax: +49 2621 14 245

#### South

#### Clariant (Italia) S.p.A.

Via Lainate, 26  
I-20010 Pogliano Milanese (MI), Italy  
Tel: +39 02 99187558  
Fax: +39 02 99187552

#### West

#### Clariant (France) S.A.

5, rue des Closeaux  
Boîte Postale 1538  
F-78205 Mantes la Jolie Cedex, France  
Tel: +33 1 3094 0198  
Fax: +33 1 3094 2796

## Discover all you can do with Clariant

Whatever your business or location may be, Clariant is a resource like no other. Among leading suppliers, there is none that so completely combines the best of both worlds: the immediacy and responsiveness of a local partner and the breadth, depth and technological sophistication of a global leader in color and additive concentrates and performance solutions. In every region of the world, the entire family of Clariant local businesses shares expertise to benefit our customers.

### Clariant has five divisions:

Textile, Leather & Paper  
Chemicals; Pigments &  
Additives; Functional Chemicals;  
Life Science Chemicals; and  
Masterbatches.

### Exactly your chemistry.

Clariant is a leading global specialty chemicals company with about 25,000 employees and sales around CHF 8.5 billion in 2004. The young company has grown out of the Sandoz Chemicals division, beginning operation in the summer of 1995, and the Hoechst specialty chemicals businesses, integrated in the summer of 1997. Clariant operates worldwide with more than 100 Group companies in 60 countries. It is domiciled and headquartered in Muttenz near Basel/Switzerland.



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[www.clariant.masterbatches.com](http://www.clariant.masterbatches.com)

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