More Than Hairspray

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June.2013

AkzoNobel Surface Chemistry Personal Care
阿克苏诺贝尔表面化学个人护理品部

气雾类的发用产品创新—新应用及新概念为消费者带来全方位护发定型体验

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MORE THAN HAIRSPRAY

colour protection
thermal protection
natural
dry shampoo
Key Trends 趋势

Styling Formulations 定型产品配方
• Colour protection 护色
• Thermal protection 热保护
• Natural approach 天然产品
• Dry shampoo plus 干粉香波

Featured AkzoNobel Products 阿克苏诺贝尔适用的产品
• CELQUAT® LS 50 polymer
• AMPHOMER® polymer
• DynamX® and DynamX® H2O polymers
• DRY-FLO® TS starch
• AMAZE™ polymer
• BIOSTYLE™ CGP polymer
Key Trends 趋势

The Positive 正面趋势
• Aerosol market is growing at 9% per year led by growth in multinationals.
• Premium end brands are replacing visits to the salon
• Consumers are looking for novel ingredients
• Innovation is driving the desire for new formulations

The Negative 负面趋势
• Salon visits are down
• Consumers are trying to extend time between salon visits
• Consumers desire professional experience at home
Key Claims

- Long Lasting 持久
- Botanical/Herbal 草本
- Brightening/Illuminating 闪亮光泽
- Protection 保护
- Time/Speed 省时
- UV Protection 抗紫外
- Vitamin 富含维他命
- Ethical 适用于不同人群不同发质
- Male 男士专用

Source: Mintel GNPD
Key Claims 宣称

**Added Benefits 附加功效**
- Products that go beyond simply maintaining or creating a particular hair style:
  - Moisturizing, adding shine, protecting from UV damage, protecting hair from heat damage etc.

**Convenience 便捷**
- Convenience claims were driven by long-lasting attributes
- Ease of use, time/speed and on-the-go claims were more limited in comparison

**Natural and Ethical 天然及适用不同人群不同发质**
- Natural formulations were limited as consumers focus more on value for money
- Eco-friendly, sustainable lines are niche and most active in North America and Europe
What is Important? 重要的影响因素

Convenience/ easy and quick to apply 便捷

Long-lasting 持久

Shocking fact! Women suffer 156 bad hair days a year 超出半年的时间，女性头 发需加强打理

Added benefits 附加的功效

It’s all about added benefits! 重要的附加功能

• Conditioning and moisturising 调理保湿
• Adding shine 提亮
• Protection from color fading, and thermal and UV damage 受损保护

Surface Chemistry | Personal Care/ Aerosol Suggestions
Colour Protection 护色
• CELQUAT® LS-50 Polymer
Colour Protection: Market Information

The market is saying, “You paid a lot of money for that colour—why watch it fade?”

**Facts**

- Global market saw an increase in product launches in this sector by 14% in 2011
- One of the Top 3 most active areas in hair care
- Claims are ease of use and long lasting
- Now targeting men as well as women
- 62% of consumers are visiting salon less
- Growth in branded and private label products
- Color protection styling products can replace a leave-in conditioner, offering multiple benefits
### Cationic Cellulose 阳离子纤维素

**CELQUAT® LS-50 polymer**  
**INCI:** Polyquaternium-4/Hydroxypropyl Starch Copolymer  
PQ-4/羟丙基淀粉共聚物

<table>
<thead>
<tr>
<th>Features and Benefits 特性</th>
<th>Use in 应用</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Substantive to hair and skin</td>
<td>• Creams and lotions</td>
</tr>
<tr>
<td>• Improves combability of hair</td>
<td>• Mousses</td>
</tr>
<tr>
<td>• Volumising benefits</td>
<td>• Gels</td>
</tr>
<tr>
<td>• Curl definition benefits</td>
<td>• Leave in and rinse off conditioners</td>
</tr>
<tr>
<td>• Imparts a smooth feel to hair and skin</td>
<td>• Personal cleansing systems</td>
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<tr>
<td>• Surfactant compatibility</td>
<td>• Detangling spritzes</td>
</tr>
<tr>
<td>• Color protection</td>
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**Recommended use level: 1 – 4%**  
推荐用量：1 – 4%
CELQUAT LS-50 is an interpenetrating network of modified high amylose starch and cationic modified cellulose

• The high amylose starch gives the water resistant, film forming property, which locks in the color

• The cationic cellulose forms a strong bond with the anionic hair locking the polymers in place

• In addition, the cationic polymer provides conditioning properties

• The starch works as a film former, providing a protective barrier on hair cuticle
CELQUAT® LS-50 has been shown to provide 75% more color retention over control swatch after 10 wash cycles.

CELQUAT® LS-50 在10次重复清洗后，相对于不使用任何阳离子调理剂，能提高75%的颜色保护作用。
Hair Color Protection Formulations
护色参考配方

Color Protection Mousse (14274-29) 护色摩丝
• CELQUAT LS-50 polymer provides hold with conditioning, manageability, volume, and dye protection DynamX
• AMPHOMER polymer for added stiffness and humidity resistance

Hard Hold Multifunctional Protection Mousse (14742-3.2) 强定型多功能护色摩丝
• CELQUAT LS-50 polymer provides hold with conditioning, manageability, volume, and dye protection
• Amphomener adds hard hold and on-hair stiffness

Colour Fast Styling String (14742-4.2) 固色定型喷雾
• CELQUAT LS-50 polymer conditions, enhances wet hair properties and locks in colour
Thermal protection
热保护
• DynamX® Polymer
• AMPHOMER® Polymer
Thermal Protection: Market Information

**Facts**

- The trend is still growing for use of heated appliances such as flat irons and curling irons.
- Consumers are often using flat irons to refresh or restyle the hair during the day.
- Appliances can reach over 200°C.
- Chemically colored hair is more prone to further damage when heated appliances are used.
- Against professional advise, consumers often use heated appliances on hair that is not 100% dry.
- 25% of styling product launches in 2011 had a thermal protection claim on them (13% in previous years).

*What the experts are saying, “Put me on before your hair gets fried!”*
DynamX® polymer has been shown to provide increased thermal protection when compared to un-treated hair.

- The DynamX image shows superior performance versus the heated control swatch.
- The DynamX image shows a nice smooth cuticle with no visible blisters.
- The control image shows the cuticle is almost completely burnt off.
- Hair fibres are more hydrophillic when damaged.
**Hold and More with AMPHOMER Polymers**

AMPHOMER®，AMPHOMER® LV-71 and AMPHOMER® 28-496

**INCI: Octylacrylamide/Acrylates/Butylaminoethyl Methacrylate Copolymer**

辛基丙烯酰胺/丙烯酸(酯)类/甲基丙烯酸丁氨基乙酯共聚物

<table>
<thead>
<tr>
<th><strong>Features and Benefits</strong> 特性</th>
<th><strong>Use In</strong> 应用</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Amphoteric</td>
<td>• Aerosol sprays</td>
</tr>
<tr>
<td>• Soluble in alcohol and aqueous alkali</td>
<td>• Non-aerosol pump sprays</td>
</tr>
<tr>
<td>• Excellent stiffness and curl retention best suited for systems that require top-level performance</td>
<td>• Anhydrous systems</td>
</tr>
<tr>
<td>• Compatible with mid-range levels of hydrocarbon propellant, DME propellant and water</td>
<td>• Alcohol free productsz</td>
</tr>
<tr>
<td>• Excellent wash-off properties allow it to be used at high solids levels for greater stiffness and hold</td>
<td>• Mousses</td>
</tr>
<tr>
<td>• Provides thermal protection on the hair</td>
<td>• Creams</td>
</tr>
</tbody>
</table>

**Recommended use level: 1 – 4%**

推荐用量：1 – 4%
### Polyurethane/Acrylates Polymers

**Recommended use level:** 1–6% active

**Features and Benefits**
- Urethane provides strength, memory, flexibility and sprayability
- Acrylate provides strength, humidity resistance and shampoo removability
- Anionic polymers, pre-neutralized with AMP
- Supplied in ethanol or water for maximum formulation versatility
- Patented technology
- For both high and low VOC hairsprays, gels, mousses and styling aids

**Multiple Claims**
- Frizz Control
- Curl retention
- Long lasting hold
- Durable hold
- Exceptional humidity resistance

**DynamX® and DynamX® H$_2$O Polymers**

**INCI:** Polyurethane-14 (and) AMP-Acrylates Copolymer
Thermal Protection Formulations
热保护参考配方

Thermal Protection Flat Iron Spray (14742-11.1)
热保护电熨棒喷雾
• DynamX polymer for flexible hold, shine and thermal protection

Medium Hold Thermal Protection Flat Iron Spray (14742-12.1) 中度定型热保护电熨棒喷雾
• Amphomer is highly effective as a thermal protection polymer in addition to providing characteristic crisp hold and humidity resistances

Flexible Film Curl Defining Mousse (14742-2.2)
弹力卷曲定型摩丝
• DynamX polymer for curl definition, frizz protection, and natural, touchable hold
MORE THAN HAIRSPRAY

Natural 天然
- AMAZE™
- BIOSTYLE™ CGP
- STRUCTURE® STYLE
Natural Products: Market Information

Facts 数据

- Natural and organic products now a $10 Billion market annual growth rate >20% expected through 2013
- Hair care and coloring products featuring a natural claim comprised $1.5 Billion (of $10.2 BB total)
- Lowering the environmental impact of their cosmetic products by developing greener formulations
- Understanding the use of water, impact on land and biodiversity, greenhouse gas emissions, waste, and energy consumption that goes into your products is key to a greener future

Industry analysts, personal care companies and suppliers all agree that green has proven its staying power.
Sustainable Technologies

Natural

Hybrid

• AMAZE™ and AMAZE™ XT Polymers

• BIOSTYLE™ CGP
• STRUCTURE® STYLE

AkzoNobel

Surface Chemistry | Personal Care/ Aerosol Suggestions
# AMAZE™ Polymer

**INCI: Corn Starch Modified**

<table>
<thead>
<tr>
<th>Features and Benefits</th>
<th>Use in</th>
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</thead>
<tbody>
<tr>
<td>Unique, natural-based, nonionic polymer</td>
<td>Creams and lotions</td>
</tr>
<tr>
<td>Cold water dispersible</td>
<td>Mousses</td>
</tr>
<tr>
<td>Touchable hold</td>
<td>Gels</td>
</tr>
<tr>
<td>Non-tacky</td>
<td>Leave in and rinse off conditioners</td>
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<tr>
<td>Excellent humidity resistance</td>
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<tr>
<td>Excellent volumizing properties</td>
<td></td>
</tr>
<tr>
<td>Restylable</td>
<td></td>
</tr>
<tr>
<td>Cost effective</td>
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**Recommended use level: 1-4%**
## Hybrid Polymers
部分天然部分合成的杂化聚合物

**BIOSTYLE™ Polymer**
**INCI: Maltodextrin/VP Copolymer** 环糊精/VP共聚物

### Features and Benefits 特性
- Excellent performance in gels, mousses and styling aids
- Low viscosity liquid, easy to use
- Excellent product and gel clarity
- Nonionic polymer technology is compatible with commonly used formulation ingredients
- Requires no neutralization
- No perceivable differences in gel texture or rheology
- Globally acceptable preservative system

### Use In 应用
- Pump hairsprays
- Creams & lotions
- Mousses
- Gels
- Leave in and rinse off conditioners

*Improved sustainability profile versus PVP and other synthetic fixative polymers*
Hybrid Polymers
部分天然部分合成的杂化聚合物

**STRUCTURE® STYLE Polymer**
**INCI: Hydroxypropyl Starch Phosphate** 羟丙基淀粉磷酸酯

<table>
<thead>
<tr>
<th>Features and Benefits 特性</th>
<th>Use In 应用</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Based on ‘waxy’ potato starch containing more than 99% amylose</td>
<td>• Mousses</td>
</tr>
<tr>
<td>• Derived from a non-GM amylopectin potato starch</td>
<td>• Gels</td>
</tr>
<tr>
<td>• Cold-water dispersible, easy to use</td>
<td>• Styling creams</td>
</tr>
<tr>
<td>• Improved clarity compared to Maize based products</td>
<td>• Pomades</td>
</tr>
<tr>
<td>• Compatible with commonly used formulation ingredients</td>
<td>• Cleansing products</td>
</tr>
<tr>
<td>• Improved formulation economics</td>
<td>• Creams and lotions</td>
</tr>
<tr>
<td>• Improved sustainability profile versus traditional styling polymers</td>
<td>Enhanced sustainability profile with excellent economics and maximum versatility</td>
</tr>
</tbody>
</table>

Recommended use level 0.15-1.0% 推荐用量 0.15-1.0%
Natural Formulations

Natural Hold Mousse (14742-9.1) 天然定型摩丝
- Firm Holding 6% VOC aerosol styling mousse
- STRUCTURE® STYLE polymer provides hold in a more sustainable way
- CELQUAT® L-200 enhances wet and dry combing properties

Natural Volumizing Mousse (14742-5.1) 天然蓬松摩丝
- BIOSTYLE™ CGP polymer provides hold and control
- CELQUAT® H-100 polymer gives conditioning, improved wet comb, and great dry feel
- STRUCTURE® STYLE adds hold, volume and enhances foam properties

Aerosol Fixing Paste (14742-10.1) 气雾定型胶
- Amaze™ polymer is a natural choice for adding texture
- DynamX® gives flexible, durable hold
Added benefits

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Dry shampoo 干粉香波
• DRY-FLO® Specialty Starches
Dry Shampoo: Market Information

Facts

- Dry shampoos have been around in one form or another for ages, since the days of powdered wigs.
- Dry shampoos can prolong a blow out, reduce styling time, hair damage and decrease water usage.
- Dry shampoo cleans, refreshes and revives your hair in seconds without the need for any other tools.
- The products are also great for "toning down" your hair if you accidentally overdid the hairspray or gel.
- They can be used strictly for cleansing properties, to "brush it out after applying. Think of it as rinsing the hair as you would after shampooing in the shower.
- Essential stylists’ tool for adding volume and texture.
- Dry shampoos offer indirect benefits that can prevent damage.
**DRY-FLO® Specialty Starches**

**DRY-FLO® PC and DRY-FLO® TS**

**INCI:** Aluminum Starch Octenylsuccinate 淀粉辛烯基琥珀酸铝
Tapioca Starch and Polymethylsilsesquioxane 木薯淀粉(和)聚甲基硅倍半氧烷

**Features and Benefits**

<table>
<thead>
<tr>
<th>特性</th>
<th>Use in</th>
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<tbody>
<tr>
<td>• Hydrophobically modified tapioca starch</td>
<td>• Creams and lotions</td>
</tr>
<tr>
<td>• Cross linked</td>
<td>• Mousses</td>
</tr>
<tr>
<td>• Silky powdery afterfeel</td>
<td>• Gels</td>
</tr>
<tr>
<td>• Oil absorption</td>
<td>• Leave in and rinse off conditioners</td>
</tr>
<tr>
<td>• Sensory modification</td>
<td>• Personal cleansing systems</td>
</tr>
<tr>
<td></td>
<td>• Detangling spritzes</td>
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</tbody>
</table>

**Recommended use level:** 1-4%

推荐用量： 1-4%
DRY-FLO® TS and DRY-FLO® starches provide good oil adsorption in a wide range of personal care product applications.

在各种个人护理产品中提供高吸油性
Dry Shampoo Formulations

Dry Shampoo (14742-8.1) 干粉香波
- DRY-FLO® TS starch for oil absorption and hair cleansing
- Tapioca Pure Starch

Invisible Dry Shampoo (14742-7-1) 轻质干粉香波
- This is a very light weightless dry shampoo
- DRY-FLO® TS starch is used for oil absorption

Flexible Control Dry Shampoo (14742-6.1) 弹力定型干粉香波
- This is a styling powder formulation used to volumize and add texture to hair
- DRY-FLO® PURE starch as an oil absorber
- DynamX® polymer provides additional styling and volumizing properties
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