

Media Release

Clariant's low-halogen "warning orange" makes a colorful impact in China

- **Low-halogen controlled colorants for electric vehicle high visibility warning orange**
- **For high voltage charging cables compliant with China QC/T 1037-2016 & DIN EN 50620:2017-11**
- **Suitable for cables, connectors, sockets and switches**

Shanghai, May 16, 2018 – Clariant, a world leader in specialty chemicals, caught the eye of China's automotive industry at Chinaplas 2018 with its "warning orange" low-halogen controlled pigments for coloring high voltage components of electric and hybrid vehicles in line with latest regulations.

As recommended by the Society of Automotive Engineers (SAE International) and The German Electrical and Electronic Manufacturers' Association (ZVEI), orange has become critical color coding for identifying high voltage systems. China Highway & Transportation Standard QC/T 1037-2016 also stipulates eye-catching orange for high voltage cables in road vehicles.

Clariant's high chroma, high performance pigments offer a new low-halogen option for creating the typical strong orange shade for automotive charging cables, connectors, sockets and switches, without noticeable impairment of electrical properties. Importantly, they can support component manufacturers in following the new European regulation for halogen-free electric vehicle charging cables - DIN EN 50620:2017-11.

For electric vehicle charging cables: PV Fast® Orange H2GL-LHC is a strong and brilliant pure mid shade orange pigment with high heat and chemical stability that makes it very suitable for commonly-used Thermoplastic Elastomers (TPEs). Its high color fastness means that it does not migrate or rub off onto neighboring materials while high lightfastness ensures that the cables remain visible for many years.

For electric vehicle charging systems: PV Fast Orange 6RL-LHC is a reddish orange pigment ideal for identifying high voltage in electric vehicle charging systems including connectors, sockets and MD switches. It has high heat and chemical stability that makes it suitable for coloring engineering polymers, in particular Polybutylene Terephthalate (PBT) and Polyamides (PA) used in charging connectors. Furthermore, it has a proven ability to not negatively influence halogen-free flame retardant performance. It achieves UL94 V-0 at 0.8mm with halogen-free flame retardants in engineering plastics and ensures compliance with RoHS 2.0 and IEC 61249-2-21. The colorant has excellent color- and lightfastness properties.

Jeffrey Wu, Head of RBL Greater China, BU Pigments at Clariant comments: “China has a strong interest in a future of electro-mobility and is investing significantly to answer the demand. Color coding of electrical cables and charging components is a crucial part of ensuring safe transportation. We are therefore delighted to offer easy, high performance options for achieving the typical high voltage “warning orange” and helping Chinese customers with the development of halogen-free colored EV charging cables.”

In addition to its “warning orange” shades, Clariant offers its selected high performance PV Fast Pigments with excellent weather-fastness and high chroma. They open up opportunities to create more appealing, colorful Polycarbonate (PC) and Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) housing for electric vehicle charging stations and piles.

More information on Clariant’s colorants for the automotive industry is available at on its dedicated Chinaplas event page www.clariant.com/chinaplas and www.clariant.com/plastics.



Clariant’s PV Fast® Pigments Range for attractive colors for electric vehicle charging stations & piles and selected PV Fast® Oranges for the typical orange “warning color” for electric charging cables, connectors and sockets. (Photo: Clariant)

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Clariant is a globally leading specialty chemicals company, based in Muttenz near Basel/Switzerland. On 31 December 2017 the company employed a total workforce of 18 135. In the financial year 2017, Clariant recorded sales of CHF 6.377 billion for its continuing businesses. The company reports in four business areas: Care Chemicals, Catalysis, Natural Resources, and Plastics & Coatings. Clariant's corporate strategy is based on five pillars: focus on innovation through R&D, add value with sustainability, reposition portfolio, intensify growth, and increase profitability.