Powder surface treatment agents

RD-9631

Features and Advantages:

RD-9631 is a specially modified, organosilicon-based multifunctional additive that combines functions such as modification, wetting and dispersion. It is primarily designed for the surface treatment of titanium dioxide, whilst also being suitable for the surface modification of other inorganic powders (such as matting powder, barium sulphate, glass powder, calcium powder, kaolin and talc). Treatment with this product imparts hydrophobicity to the pigment, reducing its surface polarity and thereby improving its dispersibility in powder coatings, inks and paints. It also enhances performance in plastic applications; it effectively improves the dispersibility of titanium dioxide in oil-based media (including plastics and colour masterbatches), enhances the dispersion effect and improves the material's heat resistance.

Product Specifications：

Appearance	Light yellow liquid
Non-volatile content	99±1%
Specific gravity	0.95 g/cm^3
Color (Gardner)	≤7
Flash point	Approx. 360° C

Application fields:

Primarily used for the surface treatment of titanium dioxide (and also suitable for other inorganic powders), it offers the following main functions:

1. Reduces the product's oil absorption, improves the levelling properties of coatings and reduces their surface roughness; forms a non-polar, slippery silicone film on the surface of titanium dioxide;

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2. Improves the heat resistance of titanium dioxide, significantly reduces its photosensitivity, and enhances its resistance to yellowing;

3. Improves the grinding efficiency of titanium dioxide, saving energy and time; assists in the transformation of titanium dioxide particles into a spherical structure during grinding;

4. Enhances the dispersibility and gloss of titanium dioxide; reduces oil absorption, improves lubricity and significantly increases the melt index; reduces oil absorption, improves lubricity and significantly improves the flowability of dry powder, facilitating addition and minimising residues;

5. Provides moisture protection and extends the shelf life.

Recommended dosage:

Generally 0.1–0.4 per cent for the front end, with an additional 0.1–0.2 per cent for the back end (calculated on the basis of the undiluted solution)

Usage:

The recommended addition rate of this product in titanium dioxide is 0.2%–0.6 per cent; it may be diluted with a solvent or emulsified.

It may be added at the following points:

* Added directly in proportion to the feed rate via the screw feeder during the air-jet milling process.
* Add by spraying at the inlet of the gas-jet mill.
* Add by spraying at the outlet of the gas-jet mill.
* It is also possible to add simultaneously by spraying at both the inlet and outlet of the gas-jet mill.

Packing:

200 kg/1,000 kg plastic drums. Before the product is completely used up, ensure the lid is tightly secured after each use.

Storage:

Store in a cool, well-ventilated place. Avoid prolonged storage at high temperatures or below 0 degrees, as this may affect performance. Seal tightly after use; shelf life: 12 months.

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