Technical Data Sheet

Masterox® R

Masterox R is a functional masterbatch consisting of a fine particle size desiccant treated with a blend of polyolefins, which gives excellent mixing and dispersion characteristics.

Masterox R is used as a desiccant and acid scavenger in plastic, polymer and nylon compounds, which can contain moisture either from fillers organic or recycled components incorporated in the formulation, by moisture absorption from high humidity environments or in recycling processes.

Masterox R combines with moisture to form calcium hydroxide. This reaction chemically binds moisture and is non-reversible up to 512^{o}C. The reaction product, calcium hydroxide is a powder which incorporates easily and invisibly into the compound, but will also perform as an acid scavenger.

Using Masterox is an easy and cost effective way to reduce moisture in plastic and nylon manufacture, saving the energy required to heat dry and increasing production speed and capacity.

Masterox R contains high quality, ultra-fine desiccant powder which is extremely consistent in its performance. Masterox R is a dust-free product, which is easy to add into any type of mixer system. Masterox R masterbatches contain approximately 70% desiccant powder and the polyolefin blend carrier used helps to speed mixing and reduces the potential for the desiccant to react before it is mixed into the compound.

Applications

Masterox desiccants are typically used in:

- Blown Films – EVA etc
- Desiccant for Blowing agents
- PVC plastisol (plastic dip)
- PVC Flexible Profile
- PVC Leather (coated fabrics)
- Eco / Bio plastics
- Nylon 66
- Nylon recycling and transport

Addition of Masterox prevents blisters and bubbles in the finished product.

Plastic leather with defects

Holding it up to the light shows the defects easily

Addition

Dose will depend on the moisture levels within the compound. Addition point can be varied to combat the effects of moisture in fillers or atmospheric moisture in high humidity environments.

The chemical reaction between calcium oxide and moisture in plastics or nylon, shows that a theoretical balance of one part calcium oxide will remove one part of water. In practice, typical dose rate for Masterox R in a low humidity environment would be 5%. This is slightly higher than for Masterox powder.

Addition rates will also be affected by mix temperature, venting of the process and addition point. For low humidity environments, Masterox R can be added at the start of the mixing process. For high humidity, moisture may often be absorbed if compound is stored and so Masterox R can also be added near the final mix to overcome this. Our Innovations Team can help with advice on dose and addition point.

Properties
For product specification see the relevant sales specification and for safety information, see the Material Safety Data Sheet. Both are available on request from your sales contact.

		CaO wt%	**Polyolefin carrier wt%**
Masterox R	Standard Masterbatch	70%	30%

Packaging
Masterox R is available in 25kg sacks. Other pack sizes and packaging types available on request.

Storage
Masterox R must be stored inside, in clean dry conditions and unopened packaging. If stored correctly, Masterox R has a minimum shelf life of 12 months from date of production.

Advice and Consultancy
Our Innovations Team can help with advice on the use of Masterox R and for a more comprehensive service, we offer Innovation consultancy which can provide mix design, safety and handling solutions. For more information, please contact us on:

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