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RIKACLEAR®
RIKAFAST®

RIKACLEAR® PC1

GENISET®
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RIKAFAST®
RIKACLEAR®

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RiKACLEAR® PC1

RiKA International Limited, a subsidiary of New Japan Chemical Co Ltd (NJC), introduces to the polypropylene industry an innovative clarifier, **RiKACLEAR PC1**.

As the inventors of acetal sorbitol chemistry, the R&D staff at NJC were only too aware that the mono-substituted molecule and the di-substituted molecule had a tendency to degrade under certain processing conditions which caused taste and odour problems, especially in thin walled articles.

Another major issue with this old technology is the propensity to plate out causing major problems on chill rollers and expensive down time cleaning injection moulding tools.

RiKACLEAR PC1 is the first effective non-sorbitol based clarifier that meets all the requirements of the polypropylene industry: clarity, gloss, stiffness, impact strength, heat resistance, organoleptics and low warpage.

The inclusion of **RiKACLEAR PC1** in homopolymer & random copolymer, including controlled rheology grades shows no signs of chemical degradation and does not affect the organoleptics of the finished article.

As a clarifier **RiKACLEAR PC1** imparts low haze (Figure 1), as well as maintaining an excellent impact / stiffness balance (Figure 2). These properties are extremely important in thin walled applications such as yoghurt containers and food containers.

RiKA and NJC are aware that the polypropylene industry requires a cost-effective additive that can successfully improve the properties of the material at a limited cost. A concentration study demonstrates that **RiKACLEAR PC1** is a cost-effective product with an optimum dosage that can vary between 1200 and 1600ppm (Figure 3), depending upon the requirements of the final article.

Aging studies show that **RiKACLEAR PC1** is the best long-term clarifier in the market even in high Melt Flow Rate (MFR) grades (Figure 4).

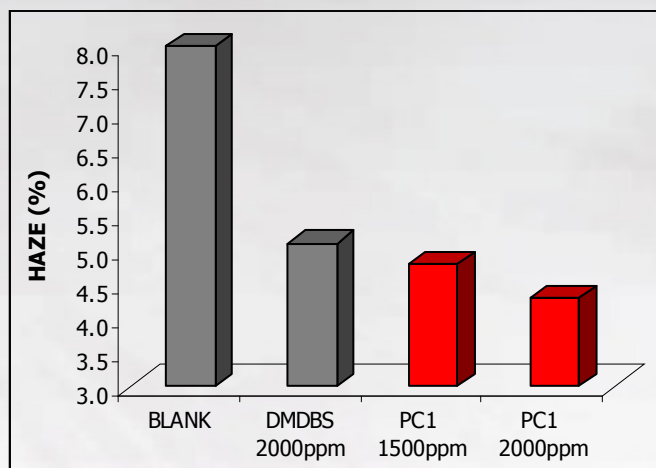


Figure 1. Haze (0.5mm plaque) in RACO PP

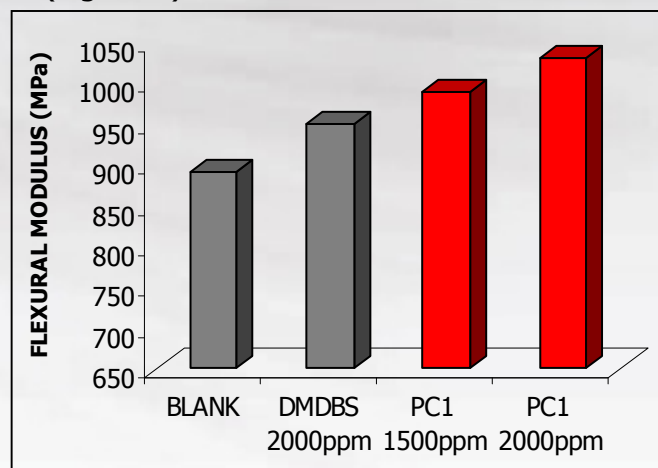


Figure 2. Flexural Modulus in RACO PP

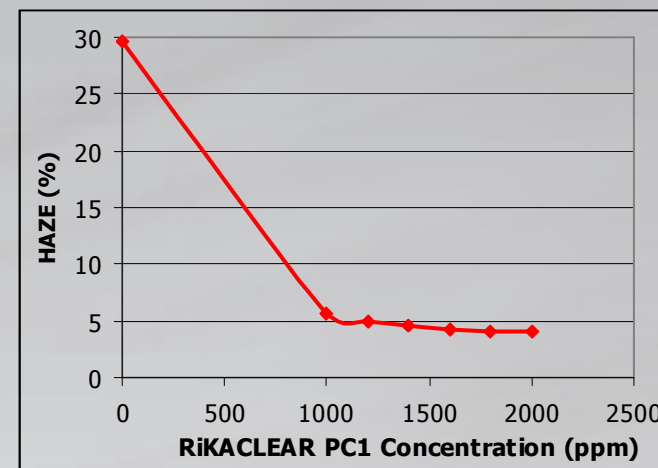


Figure 3. Concentration study - 0.5mm Haze RACO PP

Multiple pass data also demonstrate that **RiKACLEAR PC1** may be used in regrind and recycling formulations without any loss of haze and gloss.

Recent developments in the industry have led to products expected to perform in the most demanding of environments, e.g. in high melt grades for an easier and consistent flow. In Figure 5, **RiKACLEAR PC1** shows excellent clarity in several MFR grades of random copolymer polypropylene (RACO PP) suitable for applications such as thin wall injection moulding. In high MFR grades, by achieving better filling characteristics, the warpage for **RiKACLEAR PC1** is significantly reduced and the shrinkage is more uniform.

The excellent balance between transparency and stiffness of this innovative clarifier, its long-term stability, high thermal stability, high efficiency at low dosage and better filling properties demonstrate that

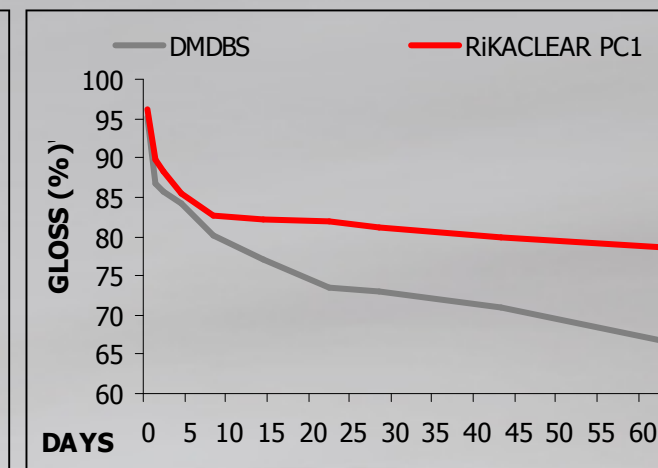


Figure 4. Aging study - Gloss in RACO PP

RiKACLEAR PC1 addresses the current deficiencies of the polypropylene industry.

RiKACLEAR PC1 has been approved by EFSA and the FDA, conditions of use A through H for all foodstuffs up to a maximum concentration of 0.25% by weight of the polymer. For more regulatory information, please contact one of the offices overleaf.

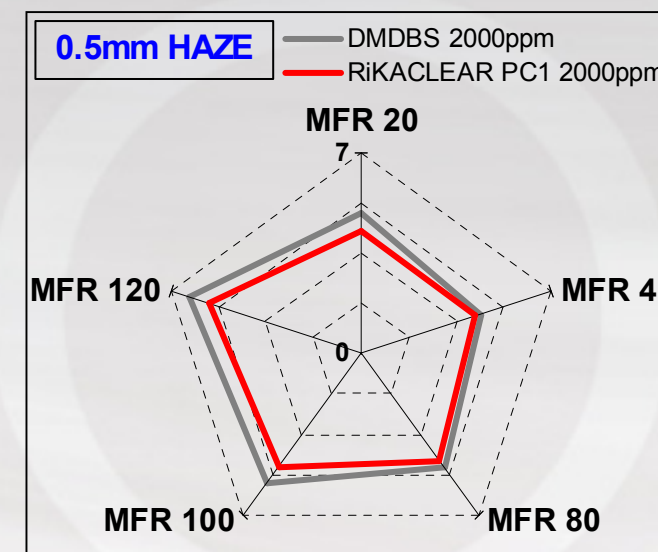


Figure 5. Haze levels for MFR 20 to 120 in RACO PP