ACRYSOL™ RM-55  Rheology Modifier

Description

ACRYSOL RM-55 is the APEO-free analogue of ACRYSOL RM-5. It is a hydrophobically modified anionic thickener, designed for formulating interior/exterior paints with high brush drag, excellent flow, film build and excellent gloss.

ACRYSOL RM-55 is most effective at high shear rates and has a nearly Newtonian rheology curve in paint formulations. These properties of the thickener translate into paints with outstanding resistance to roller spattering, excellent film build and leveling properties.

Delivered as a low viscosity liquid, ACRYSOL RM-55 is very easy to handle and incorporate into the paint. It is resistant to microbiological degradation, thereby avoiding viscosity loss in the paint, one of the most common problems encountered by paint manufacturers.

Use of ACRYSOL RM-55 alone or in combination with other thickeners can yield the following benefits:

Characteristics of the Product

- Good high shear viscosity build
- Excellent spatter resistance
- Excellent gloss development
- Superior film build – better hiding
- Excellent flow and leveling
- Resistant to microbe and enzyme attack
- Easy to incorporate

Typical Properties

These properties are typical but do not constitute specifications.

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Off white milky liquid</th>
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</thead>
<tbody>
<tr>
<td>Solids content %</td>
<td>30</td>
</tr>
<tr>
<td>Brookfield viscosity (1 at 60)</td>
<td>Max 30 cps</td>
</tr>
<tr>
<td>Specific gravity (wet polymer)</td>
<td>1.06</td>
</tr>
<tr>
<td>Solvent</td>
<td>Water</td>
</tr>
<tr>
<td>Chemistry</td>
<td>HASE*</td>
</tr>
<tr>
<td>pH</td>
<td>2.6-3.8</td>
</tr>
</tbody>
</table>

*Hydrophobically modified alkali swellable emulsion

Formulations Guidelines

Incorporation

ACRYSOL RM-55 associative thickener offers the latex paint manufacturer easy handling and flexibility in both the order of addition and the method of incorporation compared to cellulosics and hydrophobically modified cellulosic thickeners. It can be added to the millbase, to the letdown, or as a post addition without affecting performance properties, as long as the medium is sufficiently alkaline during the incorporation and sufficient mixing is available.

Supplied as a low viscosity emulsion, ACRYSOL RM-55 is easy to pump or pour and therefore very suitable for bulk handling and/or automatic metering equipment.
Order of Addition

As stated above, ACRYSOL RM-55 can be incorporated at different stages of formulation, provided that enough base is available to neutralize the thickener and additional base is used to adjust pH. These stages are (1) as the final letdown ingredient, (2) after dispersion but prior to letdown or (3) prior to pigment dispersion. In all cases it is recommended to add ACRYSOL RM-55 diluted 1:1 with water.

Adding ACRYSOL RM-55 as one of the final ingredients in the letdown is convenient in the laboratory to determine the approximate amount of thickener that will be needed to achieve the desired viscosity, or in the plant to make final viscosity adjustments.

Addition of ACRYSOL RM-55 in this manner assumes reasonably good agitation in the vessel. Less than ideal mixing can be compensated for, in many cases, by adding the thickener emulsion more slowly. In any case the addition of the appropriate amount of base prior to the ACRYSOL RM-55 is essential in order to avoid reduction in pH and subsequent pigment flocculation.

ACRYSOL RM-55 can also be added during the letdown stage in a preneutralized form:

Solution Preparation

<table>
<thead>
<tr>
<th>Weight (%)</th>
<th></th>
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<tbody>
<tr>
<td>Water</td>
<td>63.4</td>
</tr>
<tr>
<td>Ammonia 28%</td>
<td>3.3</td>
</tr>
<tr>
<td>ACRYSOL RM-55</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

This solution should be adjusted to a pH of between 8.0 and 8.5.

Material Safety Data Sheets

Rohm and Haas Company maintains comprehensive and up-to-date material safety data sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products.

Rohm and Haas Company recommends that you obtain copies of our material safety data sheets from your local Rohm and Haas representative on each of our products prior to its use in your facilities. We also suggest that you contact your supplier of other materials recommended for use with our products for appropriate health and safety precautions prior to their use.

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