LUBRITAN™ AS Acrylic Syntan

Field of Application

LUBRITAN AS acrylic syntan is an economical, easy-to-use member of Rohm and Haas Company’s unique line of lubricating acrylic syntans. LUBRITAN AS is particularly distinguished by its ability to impart a high level of softening with good break, strength, and fullness; these features make it especially well-suited to automotive leather. The softening effect of LUBRITAN AS enables the tanner to reduce significantly or, in some cases, eliminate the use of fatliquor, thereby minimizing fogging tendencies and optimizing other important automotive leather properties. Of course, LUBRITAN AS also provides all the other desirable features typical of its family, including lightfastness, resistance to heat aging, and substantivity in mineral-tanned leather.

By design, LUBRITAN AS imparts more softness and waterproofing resistance than its companion product LUBRITAN SP acrylic syntan. Although LUBRITAN AS was specifically developed as a retanning and lubricating agent for upholstery leathers, its properties make it appropriate for shoe and garment leather as well. As an acrylic retan for shoe upper leather, LUBRITAN AS improves break and filling while imparting varying degrees of softness depending on the level used. This syntan can also impart moderate levels of water resistance, which can be maximized by the subsequent addition of metal retanning agents such as chrome, aluminum, and zirconium sulfate.

Typical Properties

These properties are typical but do not constitute specifications.*

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>milky white emulsion</td>
</tr>
<tr>
<td>Typical usage, %</td>
<td>2–18</td>
</tr>
<tr>
<td>Total solids, %</td>
<td>29.0–30.5</td>
</tr>
<tr>
<td>pH</td>
<td>5.0–6.0</td>
</tr>
<tr>
<td>Density, lb/U.S. gal</td>
<td>8.6</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.03</td>
</tr>
<tr>
<td>Solubility</td>
<td>easily diluted with water</td>
</tr>
<tr>
<td>Lightfastness</td>
<td>excellent</td>
</tr>
<tr>
<td>Freeze/thaw stability</td>
<td>not stable</td>
</tr>
</tbody>
</table>

*The actual specifications for this product are available from Rohm and Haas Company upon request.

Product Description

Like the other products in this family, LUBRITAN AS acts both as a syntan and a lubricating agent. LUBRITAN AS has a broad application profile similar to that of LUBRITAN SP but offers significantly better performance characteristics. As a liquid of relatively low viscosity, the product promises trouble-free handling; it can be poured or pumped with ease.

As with all LUBRITAN products, LUBRITAN AS is substantively incorporated into mineral-tanned leather. Consequently, it offers the capability of producing leathers stable to both washing and dry cleaning. Although LUBRITAN AS imparts less water resistance than LUBRITAN WP, performance in this respect can be improved by adding LUBRITAN WP, suitable water-resistant oils, or silicone products such as LEUKOTAN™ XE3 auxiliary.

LUBRITAN AS is compatible with all conventional retanning materials. As with any retanning chemical, the final character of leather containing LUBRITAN AS can be modified by varying the processing conditions. Altering the degree of neutralization, application temperature, and application level can effect changes in the final leather character. The leather’s properties can also be manipulated by combining LUBRITAN AS with other LUBRITAN products, LEUKOTAN acrylic syntans, and/or fatliquors.

The dye acceptance of LUBRITAN AS is excellent and leathers produced using this product will display clean and exceptionally level dyeings.
In addition to its other features, LUBRITAN AS is noteworthy for the fact that, like the other members of the LUBRITAN family, it is characterized by extremely high exhaustion. As a result, LUBRITAN AS contributes little waste to the effluent stream, particularly when compared to phenols, naphthalenes, and natural products commonly used in retanning.

The major benefits provided by LUBRITAN AS lubricating syntan are as follows:

- low density
- low water absorption
- water resistance
- stability to dry cleaning
- low extractables
- ease of finishing
- lightfastness
- buffability
- good water vapor permeability
- low fogging properties

**LUBRITAN as Application Parameters**

Laboratory and field studies conducted to date indicate that using LUBRITAN AS in accord with the following application guidelines will provide the best results. No matter what the application, LUBRITAN AS should be stirred before use to ensure that the latex particles are uniformly distributed. Upon extended storage, some layering may occur. This phenomenon, however, is reversible; stirring will make the product usable again.

**Automotive/Upholstery Leather**

When LUBRITAN AS is employed in automotive leather produced from chrome-tanned stock, the hides should first be neutralized to a pH of approximately 5.5. This can be accomplished by use of neutralizing syntans, which will also promote penetration and grain tightness in the subsequent retanning process. In such cases, the stock should be washed to remove residual neutralizing salts before LUBRITAN AS is applied.

LUBRITAN AS should generally be used at levels ranging from 12% to 16% (based on the blue, shaved weight of the hide) in automotive leather; the specific concentration will depend on the degree of softness required and quantity of fatliquor present.

In processes utilizing fatliquors, small amounts of that ingredient can be added before or after LUBRITAN AS. Because LUBRITAN is acrylic, it will promote uniform dye acceptance. Moreover, in most cases, acidification is necessary only to fix the dye. LUBRITAN AS will react with the chrome complex in the stock during retanning.

**Water-Resistant Leather**

To produce water-resistant leather with LUBRITAN AS, the hides should first be neutralized to a pH of approximately 5.5 and then washed. At this point, LUBRITAN AS—at a level of 6% to 12%— should be added in a medium float at 40°C. As always, the specific level of LUBRITAN AS employed will vary with the degree of softness and water resistance desired. Water resistance can be enhanced by adding LEUKOTAN XE3 silicone auxiliary at the same time as LUBRITAN AS or by later capping the leather with a metal tanning agent.

**Shoe Upper Leather**

The use of LUBRITAN AS a retan at levels of 2% to 8% will produce shoe upper leather with good break and handle. It is not necessary for LUBRITAN AS to penetrate the leather completely in this process, so the blue stock need only be neutralized to a pH between 4.8 and 5.2. Once again, the leather should be washed after neutralization and before addition of LUBRITAN AS. Dye can be incorporated before, during, or after application of LUBRITAN AS. Fatliquor level will be predicated on the degree of softness required.

**Safe Handling Information**

Rohm and Haas Material Safety Data Sheets (MSDS) contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Under the OSHA Hazard Communication Standard, workers must have access to and understand MSDS on all hazardous substances to which they are exposed. Thus, it is important that you provide appropriate training and information to your employees and make sure they have available to them MSDS on any hazardous products in the workplace.
Rohm and Haas Company sends MSDS on non-OSHA-hazardous as well as OSHA-hazardous products to its customers upon initial shipment, including samples. If you do not have access to one of these MSDS, please contact your local Rohm and Haas representative for a copy.

Updated MSDS are sent upon revision to all customers of record. In addition, MSDS are sent annually to all customers receiving products deemed hazardous under the Superfund Amendments and Reauthorization Act.

MSDS should be obtained from your suppliers of other materials recommended in this bulletin.

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