Aquaspersions Ltd.

Introduction
Overview

- Privately owned, independent company
- 40 years of manufacturing experience
- Manufacturer & global supplier of high quality aqueous dispersions & emulsions
- Headquartered in Halifax, England
- Factories in England & Malaysia
- Purpose built, modern manufacturing and R&D facilities
Halifax, UK

Rawang, Malaysia
Aquarez.

Aquarez PVB

- Polyvinyl Butyral Emulsion
- Reaction product of butyraldehyde with polyvinyl alcohol
- Polymer has acetyl, hydroxyl and butyl side groups
- Crosslinkable through hydroxyl group
  - Isocyanate, blocked isocyanate, melamine, phenolic resin
- Used crosslinked and uncrosslinked
- Room temperature film formation via plasticization/ coalescent.
- Suggested applications
  - Removable protective coatings
  - Water based Metal Primers
  - Glass coating/
  - Wood coating
Base PVB resin types
- Residual OH functionality: 18 - 21%
- Residual Acetate: 1 – 4%
- Molecular Weight Range:
  - PVB 507 = ca. 50k
  - PVB 508 = ca. 75k
  - DP415-199 = ca. 75k
  - DP415-234 = ca. 70k
  - PVB 605 = ca. 50k
  - PVB 610 = ca. 50k
- Dispersion Stabilisation:
  - PVB 500 series: Anionic Fatty acid salts
  - PVB 600 series: Anionic Fatty acid salts
- Plasticiser Type:
  - 500 Series = Castor Oil
  - 600 Series = Butyl Ricinoleate
  - Other plasticiser options may be considered if need identified.
- Regulatory
  - All Aquarez PVB products and components are REACH, TSCA and DSL registered.
  - FDA Food contact and other regulatory requests can be requested on case by case basis
## Aquarez Range.

<table>
<thead>
<tr>
<th>Grade</th>
<th>PVB 507</th>
<th>PVB 508</th>
<th>PVB DP415-199</th>
<th>PVB DP415-234 (New)</th>
<th>PVB605</th>
<th>PVB610</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PVB Base Resin</strong></td>
<td>Medium MW</td>
<td>High MW</td>
<td>Medium MW</td>
<td>High MW</td>
<td>High MW</td>
<td>High MW</td>
</tr>
<tr>
<td><strong>Plasticiser Ratio</strong></td>
<td>7:3 (or 43phr)</td>
<td>2:1 (or 50phr)</td>
<td>7:3 (or 43phr)</td>
<td>7:3 (or 43phr)</td>
<td>7:3 (or 43phr)</td>
<td>9:1 (or 11phr)</td>
</tr>
<tr>
<td><strong>Plasticiser type</strong></td>
<td>Castor Oil</td>
<td>Castor Oil</td>
<td>Castor Oil</td>
<td>Castor Oil</td>
<td>Butyl Ricinoleate</td>
<td>Butyl Ricinoleate</td>
</tr>
<tr>
<td><strong>Surfactant Type</strong></td>
<td>Proprietary blend of fatty acid surfactants</td>
<td>Potassium Oleate</td>
<td>Proprietary blend of fatty acid surfactants</td>
<td>Proprietary blend of fatty acid surfactants</td>
<td>Potassium Oleate</td>
<td>Potassium Oleate</td>
</tr>
<tr>
<td><strong>TSC, %</strong></td>
<td>49 – 51</td>
<td>44 – 46</td>
<td>49.5 – 51.5</td>
<td>46.0 – 48.0</td>
<td>49 – 51</td>
<td>50 – 52</td>
</tr>
<tr>
<td><strong>Active, %</strong></td>
<td>45 – 47</td>
<td>42 – 44</td>
<td>46.5 – 48.5</td>
<td>43.0 – 45.0</td>
<td>45 – 47</td>
<td>45 – 47</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>9.5 – 10.5</td>
<td>9.0 – 10.0</td>
<td>9.0 – 10.0</td>
<td>9.0 – 9.5</td>
<td>9.0 – 10.0</td>
<td>9.0 – 10.0</td>
</tr>
<tr>
<td><strong>Viscosity @ 20°C, mPa.s</strong></td>
<td>ca. 950</td>
<td>ca. 400</td>
<td>ca. 950</td>
<td>ca. 750</td>
<td>ca. 750</td>
<td>ca. 800</td>
</tr>
<tr>
<td><strong>Applications</strong></td>
<td>Strippable coatings (interior and exterior use).</td>
<td>High strength strippable coatings (interior use)</td>
<td>Water resistant strippable coatings</td>
<td>Water resistant strippable coatings</td>
<td>Strippable coatings, textile binder, Mil-W-27265R compliant</td>
<td>Coatings, Textile binder, Mil-W-27265R Compliant</td>
</tr>
<tr>
<td><strong>Alternatives for</strong></td>
<td>Butvar RS-3120 or RS-261</td>
<td>Butvar RS-3120</td>
<td>RS-261 or Shark Dispersion</td>
<td>RS-261</td>
<td>Butvar BR</td>
<td>Butvar FP</td>
</tr>
</tbody>
</table>

* - DP grades are development formulations and typical properties are provisional and may be subject to change.
Aquarez Applications

- Temporary Protective Coatings
  - Signage Advertising
  - Glass protection
  - Aerospace / Automotive / Marine
  - Household appliance
  - Spray booth
  - Hobby and Crafts markets (RC Modellers)
Other Aquarez Applications

- Textile Sizing
  - Military textiles
  - Seatbelt restraints
  - Bobbin fibre tensioning
  - Glass fiber sizing

- Wood Primers
  - Stain Blocking primers
  - Undercoats

- DTM Primers / Stoving Enamels....