SOLUFLAKE flaked calcium carbonate

Control circulation and seepage losses in drilling and completion fluid systems

The Baker Hughes, a GE company (BHGE), SOLUFLAKE™ flaked calcium carbonate is effective in controlling circulation losses and seepage in both completion and drilling fluids. The SOLUFLAKE calcium carbonate is available in three grades—fine (F), medium (M), and coarse (C). Seepage loss should be treated with SOLUFLAKE F material in the 6 to 12 lbm/bbl (17.1 to 34.2 kg/m³) range. The coarser grades, SOLUFLAKE M and SOLUFLAKE C, are used to treat severe mud losses. Shale shakers are usually bypassed when coarser material grades are used. The SOLUFLAKE calcium carbonate is up to 99.99% soluble in 15% hydrochloric acid and as such, is an excellent additive for drill-in fluids. SOLUFLAKE calcium carbonate is an excellent contingency additive for drill-in fluids such as the BHGE PERFFLOW™ drill-in fluid system.

SOLUFLAKE calcium carbonate can be used in water-, synthetic-, or oil-based fluid systems. This product is particularly effective in oil or synthetic systems, since the material does not absorb water.

Environmental Information
For information concerning environmental regulations, contact the BHGE Health, Safety, and Environment department.

Shipping
Transportation of SOLUFLAKE calcium carbonate is not restricted by either international or U.S. regulatory agencies.

Safe Handling Recommendations
Use normal precautions and equipment for employee protection when handling chemical products. Use of appropriate respirator, gloves, goggles, and apron are recommended for employee comfort and protection. See the material safety data sheet prior to use.

Applications
• Permeable zones like gravel beds, vugular limestones, faulty cement jobs, or existing fractures
• Porous and fractured formations

Benefits
• Available in three grades ranging from fine to coarse
  – Controls seepage losses efficiently with fine grade
  – Overcomes severe mud losses with coarser grades
• Acid soluble
  – Helps protect the pay zone and facilitate well completion after drilling
• Effective in oil or synthetic systems
  – Does not affect emulsion stability
• Non-fibrous material does not absorb water
  – Prevents elevated rheology and emulsion instability
Packaging
SOLUFLAKE calcium carbonate is packaged in 50-lbm (22.7-kg), multi-walled bags.

Recommended Treatment
SOLUFLAKE F, SOLUFLAKE M, and SOLUFLAKE C calcium carbonate can be added at 6 to 12 lbm/bbl (17.1 to 34.2 kg/m³) total concentration. Total loss of returns should be treated with high concentrations (30 to 40 lbm/bbl [86 to 252 kg/m³]) of SOLUFLAKE M or SOLUFLAKE C calcium carbonate and spotted opposite the loss zone.

### Typical physical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White flakes</td>
</tr>
<tr>
<td>Hygroscopic</td>
<td>No</td>
</tr>
<tr>
<td>Acid solubility</td>
<td>94-99.99%</td>
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