

## Technical Bulletin:

# LOW TEMPERATURE HANDLING

Most of liquid Pilot's products have cloud points below 40°F (5°C). A few products have higher cloud points, which may cause problems with low-temperature storage. In general, a product that is stored below its cloud point will separate and/or become cloudy. Usually, warming back to room temperature and gentle agitation are sufficient to completely clarify these products. A few products pose special problems.

### CLOUD POINT

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**Calfoam<sup>®</sup> ES-603 and EA-603:** These products may become cloudy and/or separate upon prolonged storage at temperatures below 55°F (13°C). A fine precipitate, comprised primarily of sodium or ammonium sulfate, may be observed. Warming to room temperature is sufficient to clarify these materials. Gentle agitation may be needed to completely re-dissolve precipitated salts.

**Calfoam<sup>®</sup> SLS-30:** Storage below 60°F (15°C) may cause this product to become cloudy. Warming to room temperature will clarify it completely.

**Calsoft<sup>®</sup> L-40 Slurry and L-60:** These products are, by definition, slurries and not liquids. Calsoft<sup>®</sup> L-40 Slurry requires elevated temperature (>100°F or 40°C) to be clear and homogeneous. Calsoft<sup>®</sup> L-60 is not homogeneous, even at elevated temperatures. Both of these products require special handling techniques.

### SPECIAL PROBLEMS

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Several products with low cloud points below 40°F (5°C) nevertheless pose special problems if they are stored at these very low temperatures.

**Calfax<sup>®</sup> 10L-45 and DB-45:** When frozen solid (<30°F, or -1°C), these products can separate into two layers. Warming and agitation is required to completely clarify and homogenize these materials.

**Calsoft<sup>®</sup> AOS-40:** When stored for significant time below 55°F (12.8°C), or if frozen (28°F, or -2°C), Calsoft<sup>®</sup> AOS-40 separates; the lower phase is gelatinous, and requires extended agitation and warming to clarify and homogenize.

**Pilot SXS-40:** When stored for significant time below 40°F (5°C), or if frozen (<32°F, or 0°C), Pilot SXS-40 will separate. The lower phase is usually crystallized sodium xylene sulfonate salts. These crystalline salts are extremely difficult to re-dissolve. Complete dissolution will require heating and extended agitation.