

# DRUM-MATES® TQMixing™ Guidelines

## A Quality Control Program

Mixing quality control procedures to enable the best product uniformity for drum and tote stored liquids.

### TQMixing™ Benefits

- DRUM-MATES® equipment helps recondition the liquid as close to its optimum uniformity as possible.
- The TQMixing™ program helps assure product quality continuity, and improves warranty reliability.
- Clients obtain better product results, benefit from stable application efficiency and may increase usage.
- Costs can be lowered with fewer field follow-ups, re-applications, consultations, warranty claims, etc.

### The Program Outline

The DRUM-MATES® TQMixing™ program can help improve quality control of drum and tote (IBC) stored liquids in any stage of transport, warehousing or usage. Many compounds separate or settle, require dilution blending or ingredient admixing. Some products have characteristics that require special attention. Variables that affect mixing may include liquid type, viscosity, thixotropicity, lubricity, temperature, pH, mixer and container type, size and shape and others.

For example, certain drum or tote stored solutions can separate or settle due to their chemical nature, particulate or fiber content, ambient temperature, catalysis, extended transportation, warehousing handling or other conditions. Quality oriented manufacturers prefer to have their liquid products agitated prior to use - just as a precaution - even if they don't obviously stratify. Product uniformity problems can be minimized or eliminated by taking the following steps:

- ◆ Authorize the TQMixing™ Quality Control Procedure below, to accurately evaluate liquids for greater product reliability.
- ◆ Specify the use of DRUM-MATES® uniquely designed mixing equipment...to ensure the best liquid uniformity.
- ◆ Initiate the TQMixing™ Procedures for tracking and reconditioning all liquid products to proven standards for best results.
- ◆ Apply a MixMemo™ Notice (see below) on containers to inform the end-user of the standards for ensuring product quality.

### The TQMixing™ Quality Control Procedure

1. For each product, determine the rate of product settling by dip test, in hours, days or weeks and record it. Then subtract a suitable time-safety-factor to determine the reconditioning (MixMemo™ Notice) cycle. Example: Product "X" takes 6 weeks to begin separating. Subtracting a three week safety factor, the operator sets up a 3 week schedule for reconditioning the product near the start of each settling cycle. So product "X" is MixMemo™ tagged for blending every 3 weeks.
2. Find out and record the thickness and use the Tachometer in the TQMixing™ Quality Control Kit, DM-100QCK, to record the best shaft Rpm of every product to be controlled. Also measure and record the characteristics of all other relevant variables. For example, heat is a common variable that affects thickness.
3. By trial mixing, specify the batch-mix time in minutes for each product. Add a suitable safety-margin time. Track ALL variables. Example: At 200 Cps (centipoise-thickness), at 70°F, product "Y" needs 1 minute at 450 Rpm to become uniform (use the tachometer to repeat the desired shaft Rpm). With a 100% safety margin, it is MixMemo™ tagged at 2 minutes per batch mix. **To order the TQMixing™ Kit, request Part No. DM-100QCK.**
4. Apply the variables and other relevant data to set up your TQMixing™ Standard Mixing Procedure for total product quality control for each liquid product or product variation in your new Product Mixing Control File. Cross reference this file with the MixMEMO™.
5. Create a suitable graphic MixMemo™ notice tag, attach it to the drum, IBC or container. This gives notice of a fixed mixing schedule and guides the operator through the correct batch-mix conditions for each product. Every product is then uniformly ready for application by the end-user.



Measure Rpm's



### Additional Support

DRUM-MATES® can provide limited additional support for analyzing certain drum and tote processing procedures for liquid products and development of MixMemo™ quality control actions. Chemical compatibility confirmations are the responsibility of the end user. Naturally, the mixer end user is responsible for all mixing applications, tests or processing changes and is solely liable for all results or consequences of any product handling using this equipment.



Bung Entry Mixing



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