



Technical Information Sheet

DuraGlide™ Dry Film Lubricant

Introduction

DuraGlide Dry Film Lubricants are a unique family of Polytetrafluoroethylene (PTFE) microdispersion lubricants available from MicroCare. This specialty lubricant is applied using a volatile carrier fluid that quickly deposits a thin, uniform, dry, film of PTFE lubricant over almost any hard surface. MicroCare custom formulates and calibrates blends to insure the end product is optimized and to specific user requirements. This enables low cost lubricant application that imparts ultra-low "break-away" forces and minimal "stiction" problems common in low speed, light load component assembly applications.

Physical Properties

DuraGlide Dry Film Lubricant is a PTFE based, fluid dispersion surface treatment that offers many important money saving benefits:

- * Low cost, non-flammable carrier fluid options
- * Outstanding particle "hang-time" in a carrier fluid with minimal agitation.
- * Calibrated PTFE solids content for consistent coating results
- * Easy, nonflammable handling in storage and in use
- * Simple equipment requirements for high volume part treatment
- * A solvent fluid inimical to bioburden issues
- * Lubricant coating is compatible with both ETO and radiation sterilization processes.
- * Non migrating lubricant deposition
- * Excellent materials compatibility
- * Fast drying carrier fluid with minimal solvent odor.

MicroCare packages a wide selection of carrier fluid options for the *DuraGlide* Dry Film Lubricant, and lubricant concentrations and may also custom-tailor lubricant performance to your specific application. Our in-house packaging capabilities includes the availability of *DuraGlide* Dry Film Lubricant packaged in aerosol dispensers and all sizes of non-pressurized containers from a few ounces up to 55 gallon drums. Call MicroCare for details on how we can help you with your application and packaging requirements.

Typical Chemical Properties

Odor:	Slight Ethereal
Solubility in Water:	Not soluble
% Volatile by Weight (Carrier):	100.0
% Solids by Weight:	1.0 to 15.0 %
Telomer Particle Size:	
Average Bulk	1-15 (microns)
Mean	3.7 (microns)
Carrier Evaporation Rate (Ether = 1):	>1
Flash Point:	Not Flammable
Closed Cup (ASTM D 93):	None
Open Cup (ASTM D 1310-86):	None

Contact MicroCare Medical for specific properties and formula availability

Environmental Legislation

DuraGlide Dry Film Lubricant formulas are accepted by the U.S. Environmental Protection Agency (EPA) under the Significant New Alternatives Policy (SNAP) program as a substitute for ozone depleting substances. *DuraGlide* Dry Film Lubricants have an Ozone Depletion Potential (ODP) of zero. Also no ingredients are classified as a Volatile Organic Compounds (VOCs)

None of the ingredients in *DuraGlide* Dry Film Lubricants are classified as Hazardous Air Pollutants (HAP) and are not subject to NESAHF regulation. None are included in SARA Title III Section 313 list of toxic chemicals, and none are subject to SARA Title III (EPCRA) reporting requirements.

Application Methods

MicroCare *DuraGlide* Dry Film Lubricant microdispersions are sold ready to use and calibrated with the concentration of PTFE solids optimized for most end uses (1% - 3% solids ranging up to 15% for specialized applications). Normal precautions (safety glasses, etc.) should be used when moving, opening and using these materials.

Component surfaces should be clean and dry prior to application of the lubricant. In high volume assembly operations, the most cost effective dipping process uses a standard vapor degreaser system. The heating system can be used to put the solution into a "rolling boil" to insure the PTFE particles remain in suspension without settling. A single dip is adequate for most applications. Contact MicroCare for engineering details related to machines.

In addition to dipping, other application methods include wiping, brushing or aerosol sprays.

Heat Treatment

Coated parts can be heat-fused if greater coating durability is desired. Heat treatment enhances the durability of the lubricant coating by melting the PTFE onto the substrate. The process is simple, and involves heating the part surface to 305-316° C (581-600° F). Measure the surface temperature directly with a thermocouple. The coating appearance may change from opaque white to a darker translucent surface and finally appear clear and wet. Maintain the surface temperature of the coated part (not the temperature of the ambient air) at recommended temperatures for 5 - 10 minutes. If a white residue remains, buff with a soft cloth after cooling. No further treatment is required.

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