

Technical Data Sheet:

**Dicronite® Dry Lubrication****Dry Film Lubricant Coating****PRODUCT DESCRIPTION**

Dicronite® is a tungsten disulfide ( $WS_2$ ), solid lubricant coating. This extremely thin film coating provides friction and sliding wear reduction that improves performance in various applications across numerous industries.

**APPLICATION PROCESS DESCRIPTION**

Dicronite® is applied at one of many licensed coating facilities. After surface preparation, Dicronite® dry lubricant is impinged onto the substrate surface. The coating process is conducted at ambient conditions. The material includes no binders or adhesives and requires no curing. Dicronite® can be re-applied without extensive stripping.

**COATING INFO**

**ACCEPTABLE SUBSTRATES** All metals, most plastics, and some ceramics; may be applied on other coatings/platings

**APPEARANCE** Silver, blue gray, dark gray

**THICKNESS** 0.5 micron (0.00002 inch) or less

**PERFORMANCE OVERVIEW**

**FRICITION REDUCTION** Application systems with Dicronite® coated on smooth surfaces typically range between 0.03 and 0.07  $\mu_k$  (dynamic coefficient of friction)

**WEAR REDUCTION** Reduces sliding wear; not appropriate for abrasive wear reduction

**LOAD CAPACITY** Same as substrate, up to approximately 350,000 psi (2,415 MPa)

**THERMAL STABILITY** Stable across wide temperature range; withstands temperature swings

- up to approximately 538°C (1000°F) in air
- up to approximately 1316°C (2400°F) in vacuum
- down to approximately -188°C (-305°F)

**VACUUM STABILITY** Very low outgassing; suitable spacecraft material

- TML < 1.0 %, CVCM < 0.1 %

LOCATIONS WORLDWIDE • [WWW.DICRONITE.COM](http://WWW.DICRONITE.COM)

Dicronite®, DL®, and DL-5® are registered trademarks of Lubrication Sciences International, Inc.

The information on this Technical Data Sheet is made available as a reference. No warranty is made with respect to performance under application conditions. Customers are advised to test the suitability of the coating for their application.

**COMMON INDUSTRIES**

Aerospace	Medical
Automotive	Plastics
Food Processing	Oil and Gas
Semiconductor	Nuclear

**COMMON APPLICATIONS**

Actuators	Gears
Ball Screws	Guides
Bearings	Molds
Bushings	Pins
Chains	Shafts
Couplings	Sprockets
Fasteners	Valves

**ADDITIONAL COATING INFO**

CHEMICAL STABILITY	Inert
TOXICITY	Non-toxic
HARDNESS	1.0 – 1.5 on Mohs' scale
MAGNETISM	Non-magnetic
HANDLING	Sensitive to scratching and abrasion; prevent damage to coated surfaces

**APPLICATION CONSIDERATIONS**

SUBSTRATE	Will not induce stress to substrate
CORROSION RESISTANCE	Provides only minimal corrosion inhibition
CONDUCTIVITY	Will not significantly affect surface conductivity (thermal or electrical)
CO-LUBRICATION	Compatible with oils and greases
LIQUIDS COMPATIBILITY	Compatible with aviation fuels, hydraulic fluids, and many solvents
OXYGEN COMPATIBILITY	Suitable for liquid and gaseous oxygen systems
RADIATION STABILITY	Stable (tested according to LEO and nuclear containment vessel radiation levels)
BIOCOMPATIBILITY	Biocompatible per USP Class VI and ISO-10993 testing

**CONTACT US**

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**LOCATIONS**

N. CALIFORNIA – S. CALIFORNIA – TEXAS  
 MINNESOTA – GEORGIA – MASSACHUSETTS  
 MEXICO – NETHERLANDS – GERMANY  
 ITALY – KOREA – JAPAN

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