



OS-16
Flame-Resistant Hydraulic Fluid

Monsanto Technical Bulletin No. O-D-601
May 19, 1950

Development Dept., Organic Chemicals Division
Monsanto Chemical Co., St. Louis 4, Mo.



OS-16 is one of several Monsanto hydraulic fluids which offer the industrial user a particularly favorable combination of properties.

OS-16 is essentially non-toxic, is flame-resistant and has excellent lubricating qualities.

OS-16 is chemically an ester base compound which contains no halogenated hydrocarbons, salts or water.

Results obtained under actual operating conditions have demonstrated the excellent performance characteristics of OS-16 and have proven its value as a medium for power transmission.

OS-16 generally requires the use of specially chosen hose, packing and gasket materials. Such are available, however, from several sources.

Consideration of OS-16 is suggested for any of the widespread applications of hydraulic fluids. It is particularly recommended where the combination of non-toxicity, flame-resistance and high lubricity are of importance.

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Experience with Monsanto's hydraulic fluid OS-16 has proven its excellent operating characteristics under actual service conditions.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance.....	Clear, blue, oily liquid
Acidity.....	0.01%
Moisture.....	0.25% Max.
Odor.....	Slight, sweet
Refractive Index at 25°C.	1.507 to 1.510
Specific Gravity.....	1.088 to 1.095
Specific Heat.....	0.42 B.T.U./lb./°F.
Thermal Conductivity.....	0.047 B.T.U./hr./ft. ² /ft./°F.
Flash Point.....	435°F.
Fire Point.....	460°F.
Viscosity (centistokes) at 100°F.	11.05
at 210°F.	2.65
Viscosity Index.....	76
Pour Point.....	-70°F.

As OS-16 is a new type of hydraulic fluid, the hose, gaskets, packing materials etc. that were suitable for earlier types are not usually suitable for use with OS-16. There are available, however, as shown in the following, a number of elastomeric materials which may be considered suitable for use with OS-16:

<u>Use</u>	<u>Material</u>	<u>Vendor</u>
All parts	TC-315	Plastics & Rubber Prod. Co. Los Angeles, California
Chevrons "O" rings	PS-85V PR-70	Linear, Incorporated Philadelphia, Pennsylvania
Chevrons "O" rings	10V70-111 10V85-94	E. F. Houghton & Company Philadelphia, Pennsylvania
Hose	1446A	Electrical Hose Company Wilmington, Delaware
Hose	Goodrich Butyl Tube Super Hose	Goodrich Rubber Company

Gasket materials complying with specifications AN-G-171 and AAF-40231 are suitable for use with OS-16. These are readily available through most packing vendors.

OS-16 has a tendency to soften and remove most finishes other than those that are baked. Paints resistant, however, to the action of OS-16 are available from the Arco Paint Company of Los Angeles and the Sherwin-Williams Company of Los Angeles.

TOXICITY

One of the valuable attributes of OS-16 is its essential non-toxicity necessitating no special precautions in handling or use. It is not a skin irritant in either the liquid or the vapor phase though vapors of it may cause slight eye irritation. Where such exposure is encountered the eyes should be washed with clear water. OS-16 should not, of course, be taken internally.

For further information about OS-16 contact:

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Printed in U.S.A.