

Monsanto Introduces...

PYDRAUL A-200



**newest
lowest cost
all-synthetic
fire-resistant
hydraulic fluid**

In 1951, Monsanto introduced the first synthetic fire-resistant hydraulic fluid for industry. Pydraul F-9 became the standard in its field, was listed with Underwriter's Laboratories. Today, it is the ONLY fire-resistant fluid to have such listing.

But Pydraul F-9 and the other brands of fluids that followed could deliver only a given "ceiling of performance" at a given price per gallon.

Now, Monsanto offers Pydraul A-200, a completely new synthetic fire-resistant hydraulic fluid. It performs like premium-grade petroleum oils, gives excellent resistance to fire, and is available at a savings of 40 cents on the gallon!

Pydraul A-200 takes the danger out of hydraulic fluid operations. Equipment can be run near ignition sources without worry of a sudden line burst ending in disaster. And the cost is low ...

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PYDRAUL A-200 IS SAFE...

In all important tests for fluid fire-resistance, Pydraul A-200 passes with flying colors. Here are the tests and the results:

HOT MANIFOLD TEST (per MIL F-7100) (Pydraul A-200 was exposed to the surface of a manifold, 1300° F.)

FLUID DID NOT FLASH OR IGNITE

HIGH-PRESSURE IGNITION TEST (AMS-3150B) (Pydraul A-200 was sprayed through a small orifice at 1000 psi, passing through the flame of an oxy-acetylene torch, 6000° F.)

FLUID DID NOT FLASH OR IGNITE

LOW-PRESSURE SPRAY TEST (AMS-3150B) (Pydraul A-200 was sprayed through an orifice at low pressure, the mist passing over an ignited oil-soaked rag.)

FLUID DID NOT INCREASE INTENSITY OF FLAME

MOLTEN METAL IGNITION TEST (Pydraul A-200 was exposed to the surface of a molten alloy, exceeding 1100° F.)

FLUID DID NOT FLASH OR IGNITE



PYDRAUL A-200 IS ECONOMICAL...

The biggest economy of any fire-resistant hydraulic fluid is one which cannot be *seen*—until a hydraulic line breaks in the plant, and the fluid is sprayed to a nearby ignition source. When this happens, a flammable fluid can destroy equipment, lose thousands of dollars of production, injure personnel, and even cause loss of life!

Pydraul A-200 is a kind of "chemical insurance policy" . . . *your* protection against production loss and injury due to hydraulic fluid fire.

Pydraul A-200 is important to maintenance programs, also. "A-200" meets the important lubricating requirements found in premium petroleum oils—nothing has been sacrificed to achieve Pydraul A-200's excellent fire-resistance! High film strength and good anti-wear properties *protect* hydraulic equipment and costly components—and Pydraul A-200 is outstanding in film strength and anti-wear performance.

Low initial cost sets Pydraul A-200 in a class by itself in the field of all-synthetic fire-resistant fluids. Where safety counts, Pydraul A-200 is the *finest* hydraulic fluid available—at the lowest cost per gallon!

PYDRAUL A-200 IS RELIABLE...

Four reasons why "A-200" is the fluid you can count on:

NON-THICKENING

Pydraul A-200 is designed to be permanent. It does not have to be inspected or replaced from month to month, or year to year. "A-200" does not thicken with use, will not form sludge or lose desirable properties with time.

"RUGGEDNESS"

Pydraul A-200 has better resistance to abuse—temporary overheat, bearing overload, and other stresses—than any other fire-resistant fluid. It resists "breakdown," even under extreme conditions.

GOOD ANTI-RUST

A-200 protects metal surfaces in the presence of water. Passes rust test (ASTM-D 665-A) with perfect score—no rust (10.0).

SHEAR STABILITY

A-200 undergoes no loss of viscosity, even after many years of use in the most severe pump operations.

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HYDRAUL A-200 IS COMPATIBLE...

Pydraul A-200 is directly compatible with other non-flammable fire-resistant hydraulic fluids. It may be added to conventional all-synthetic fluids in the case of *oil with no performance loss.*

Pydraul A-200 eliminates flushing (in a clean system) if petroleum oils are being used. A-200 combines readily, makes conversion easy.



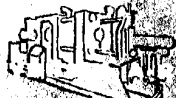
	"A-200"		Premium Pet. Fluid	
	50#:	16,340 psi	15#	6,500
Timkin Loq (Passing)				
Shell Four Ball Wear Test:	10 kg.	40 kg.	10 kg.	40 kg.
(167° F., 1 hr., mm scar)	0.29	0.43	0.23	0.80
Steel on steel:	1.40	1.70	1.78	2.71
Steel on bronze:				
Pump Test Data:				
Vickers V.104-D Vane Pump				
11 G. P. M. Cartridge				
800 psi				
120°				
1000 hours				
Wt. Loss from ring		0.31 G.		0.03 - 0.74
Alma EP Test	48#	44# T.	8#	17# T.
(passing load and torque in pounds)				

HYDRAUL A-200 INSTALLATION IS SIMPLE...

If you are now using a conventional all-synthetic fluid... simply add Pydraul A-200 as makeup. No modifications in present system necessary.

If you are using petroleum oil... drain, change to Pydraul A-200, replace dynamic seals and bladders, remove internal paint (if any), change and operate.

If you are using a water-glycol fluid... drain, check for leaks and worn parts, flush with Pydraul A-200, change to resistant dynamic seals and bladders, remove the flush (filter flushed material and decant water to reclaim), re-load and operate.



HYDRAUL A-200 IS WIDELY USED IN...

DIECASTING MACHINES
HYDRAULIC PRESSES
FURNACE TILTERS
REGULATORS
PERMANENT MOLD CASTERS
STAMPERS

EXTRUSION PRESSES
INJECTION MOLDING MACHINES
SCRAPERS
INGOT LOADERS
SCRAP METAL BALERS
PLATING MACHINES

FURNACE PRESSES
ELECTRIC FURNACES
FURNACE DOOR OPENERS
ELEVATORS AND HOISTS
HYDRAULIC JIGS

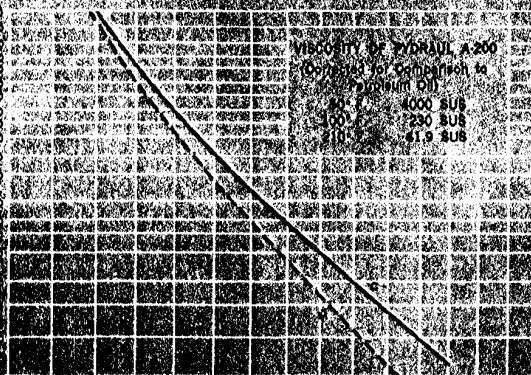
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PYDRAUL[®] A-200 TYPICAL PROPERTIES

Viscosity:

Laboratory viscosity measurements are effected by fluid density. Because petroleum oils all have similar densities, their measured viscosities can be compared. The densities of synthetic fluids vary, however, so the measured viscosities must be corrected if comparisons are to be made.

In the graph below, curve "M" is the laboratory-measured viscosity of Pydraul A-200. Curve "C" shows the viscosity-temperature relationship of Pydraul A-200, modified for the differences in densities between oil and Pydraul A-200. Comparing curve "C" with a viscosity curve of a medium weight petroleum hydraulic oil, it is seen that the two are viscosity equivalents at normal operating temperatures.



Density (Gms/cc)

1.42 @ 100° F.

1.43 @ 60° F.

Pour Point

+ 5° F.

Auto-Ignition Temperature:

Above 1200° F.

HANDLING AND STORAGE

Like all specialized hydraulic fluids, certain precautions are advisable when handling Pydraul A-200. No problems will arise when it is used as recommended.

Repeated or continuous skin contact should be avoided and inhalation of the vapors at elevated temperatures should be prevented. Pydraul A-200 is only mildly irritating to the eyes (but can cause pain) and like any other synthetic hydraulic fluid, it exerts a solvent-type action on the skin. Where prolonged contact cannot be avoided, gloves should be worn. There is no vapor inhalation hazard associated with use at room temperature. In brief exposure to vapors given off at elevated temperatures, no systemic effects have been found in extensive animal experimentation. Exposures of one hour to the decomposition materials showed local respiratory irritation, but no systemic effects.

Eye irritation studies after using the material full strength showed it to be a mild irritant with no permanent damage to the eye tissues.

If Pydraul A-200 is splashed or sprayed into the eyes, wash thoroughly, with water. To relieve irritation, physicians have used 1% pontocaine solution as well as the ophthalmic cortisone acetate solution.

Pydraul A-200 can be stored at sub-zero temperatures without damage to the fluid. Just allow A-200 to warm to room temperature, and use.

AKRON

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ST. LOUIS 65, MISSOURI

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