

Features

Irving **BIO-HYDRAULIC** meets or exceeds the following manufacturers and industry test standards:

- Hagglunds Denison HF-0, HF-2, HF-6 including P-46 (piston) and T5D-42 (vane) pump tests
- Vickers M-2959-S, using 35 VQ 25 vane pump in both standard (50 hours) and extended (300 hours) tests
- ASTM D-2882, using Vickers V104C vane pump
- CEC L-33-T-82, readiness of biodegradation
- OECD 301B (modified Sturm),

BIO-HYDRAULIC

Biodegradable Hydraulic Oil

BIO-HYDRAULIC oil was specifically designed for any hydraulic system working in an environmentally sensitive area. Such areas dictate the use of oil where spills and leaks must have the least possible effect on animal, plant and water. Irving Bio-Hydraulic uses special biodegradable vegetable and synthetic base oils coupled with low toxicity additives. Choose this environmentally safe product without sacrificing the levels of performance that industrial customers require from their hydraulic oils.

BIO-HYDRAULIC'S base oil mix has excellent stability with enhanced oxidation resistance due to a special low-toxicity additive. It was deemed particularly important that this oil provide the same wear-protection as premium mineral based hydraulic oils which were achieved without the use of zinc-containing components.

BIO-HYDRAULIC oil meets or exceeds all the major pump manufacturer's toughest fluid requirements. These include but are not limited to; fluid life, wear prevention, hydrolytic stability, filterability, foam resistance, water separation, corrosion and rust prevention.

BIO-HYDRAULIC oil has the wide operating temperature range typical of a multi-graded mineral oil. Although it has a nominal ISO* grade of 46, it offers the low-temperature fluidity of an ISO 32 grade with the high temperature viscosity of an ISO 100 grade. Unlike some multi-grade mineral oils, Bio Hydraulic will retain the aforementioned characteristics in a high-shear environment. Biodegradability of the oil has been tested according to two accepted standards with toxicity levels well below current recommended limits.

Benefits

- Excellent all-round performance
- Biodegradable with low toxicity
- Wide operating temperature range a natural multi-grade
- Suitable for all types of pumps, even those with silver-plated parts

Check with sales representative or website for the latest product approvals.



BIO-HYDRAULIC

Typical performance results

ISO GRADE	46
DENSITY @ 15°C (D-4052), kg/l	0.9200
COLOUR (D-1500)	2.0
VISCOSITY (D-445) CST @ 40°C CST @ 100°C	42.5 9.1
VISCOSITY INDEX (D-2270)	203
BROOKFIELD VISCOSITY (D-2983)	
CP @ -30°C	3000
POUR POINT (D-97), °C	-30
OXIDATION LIFE (D-943), HRS	1000+
FLASH POINT (D-92), °C	278
ACID NUMBER (TAN)(D-974), mgKOH/g	0.69
FZG LOAD STAGE (PASS)	11
ZINC CONTENT (%WT)	<0.005
USEFUL OPERATING TEMPERATURE, °C, MIN/MAX	-17/85
COPPER CORROSION 3H/100°C	1a

Available sizes & part numbers

	946ml (1US Quart)	3.78L (1 US gal)	18.9L Pail (5.0 US gal)	205L Drum (54.2 US gal)	1000L Cube (264 US gal)	Bulk
Bio-Hydraulic 46			F0083040	F0071850		B0000301



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