Hydro Safe
476 Griggy Rd., P.O. Box 474
Hartville, Ohio 44632-0474

Hydro Safe® Select Hydraulic Fluid

(ISO VG 22, 32, 46, 68)

Hydro-Safe® Select Hydraulic Fluids are readily biodegradable lubricants engineered to exceed Vickers M-2950-S, I-286-S, US Steel 126 and 127 specifications. Designed for elevators, fleet, marine, and industrial hydraulic systems, they provide anti-wear, anti-rust, anti-oxidation, anti-foam, and superior demulsibility. Formulated with zinc-free additives and Stabilized™ High Oleic Base Stock (HOBS), these fluids deliver enhanced viscosity index, oxidation stability, and thermal shear resistance while remaining environmentally friendly. They are especially effective in outdoor hydraulic systems operating in moisture-laden or dusty environments.

Benefits

- Readily biodegradable, environmentally non-toxic, not bioaccumulative
- Zinc-free additive system meets high-pressure pump wear requirements
- Compatible with vane, piston, and gear pumps
- Excellent rust and corrosion protection in fresh and sea water
- High viscosity index for outstanding thermal and shear stability
- Low volatility improves flash/fire safety
- Enhanced seal conditioning for extended seal life
- Meets EPA VGP 2013 for Environmentally Acceptable Lubricants (EALs)
- Not bioaccumulative, low-toxicity per EPA/USFWS guidelines
- Compatible with ISO 15380 HEES/HETG fluid specifications

Application / New Filling

- Ideal for use in hydraulic systems in fleet vehicles, marine vessels, and industrial equipment
- Performs in harsh outdoor environments with frequent moisture and dust exposure
- Suitable where frequent oil changes are necessary due to environmental conditions
- Use in equipment requiring ISO VG 22, 32, 46, or 68 with DIN 51524 Part 2 and 3 compliance
- Consult Hydro-Safe® for system conversion guidelines when switching hydraulic fluids

Specifications and Approvals

- Vickers M-2950-S, I-286-S
- US Steel 126, 127
- ASTM D-5864 & OECD 301B – Biodegradability
- DIN 51524 Part 2 and 3 (HLP/HVLP)
- EPA VGP – EAL Compliant

- USDA Biobased Certified (>50% new carbon)
- Patented Stabilized™ additive technology (US Patents 6,383,992 and 6,534,454)

TYPICAL SPECIFICATIONS	METHOD	ISO 22	ISO 32	ISO 46	ISO 68	Spec. Requirements
Specific Gravity @ 15.6°C	ASTM D-287	0.88	0.88	0.88	0.88	Report
Viscosity @ 40°C	ASTM D-445	22.3	30.5	43.1	62.8	Note 1
Viscosity @ 100°C	ASTM D-445	5.27	6.7	8.8	11.9	Note 1
Viscosity @ -25°C, Brookfield	ASTM D-2983	1,000 cP	1,400 cP	3,400 cP	4,700 cP	Note 1
Viscosity Index	ASTM D-2270	182	186	190	189	90 (min)
Pour Point	ASTM D-97	-38°C	-35°C	-33°C	-30°C	Note 1
Flash Point (COC)	ASTM D-92	205°C	232°C	240°C	248°C	198°C (min)
Fire Point (COC)	ASTM D-92	230°C	255°C	264°C	270°C	218°C (min)
Foam Sequence I, II, III (10 min)	ASTM D-892	0 Foam	0 Foam	0 Foam	0 Foam	0 Foam
Rust Prevention	ASTM D-665					
Distilled Water		Pass	Pass	Pass	Pass	Pass
Syn. Sea Water		Pass	Pass	Pass	Pass	Pass
Copper Corrosion Strip 3hr @ 100°C	ASTM D-130	1A	1A	1A	1A	DIN 51524 2(max)
Dielectric Strength, KV (Avg)	ASTM D-877	46	40	48	40	>35
Rotary Bomb Oxidation, (minutes)	ASTM D-2272	270	272	270	260	USS 120 (min)
Neutralization Number mg KOH/g	ASTM D-974	0.4	0.4	0.4	0.4	1.5 (max)
Swell of Synthetic NBR-L Rubber, % (Avg.)	DIN 53538, Part 1	8.0	6.0	5.0	5.0	0 to 12
Volume Change (%)						
Shore A Hardness Change (%)	ASTM D-1401	-5	-4	-4	-4	0 to -7
Demulsibility, ML Oil/Water/Emulsion	ASTM D-4172	40/40/0 <10 minutes	40/ 40/0 <10 minutes	40/ 40/0 <10 minute	40/ 40/0 <10 minute	40/37/3 (max) (30 minutes)
4-Ball Wear, 1h, 167°F, 1200 RPM, 40 kg	DIN 51354	0.42	0.40	0.40	0.40	USS 127 0.5 (max)
FZG Test A/8,3/90		11	11	11	11	US.Steel 10 (min)
Biodegradation Classification	ASTM D-5864 OCED 301B	Ultimate PW1 Readily	Ultimate PW1 Readily	Ultimate PW1 Readily	Ultimate PW1 Readily	Ultimate PW1 Readily
Environmentally Friendly	ISO 15380	yes	yes	yes	yes	
USDA Biobased Tested	New Carbon	yes	yes	yes	yes	meets/exceeds over 50%
RLI Product Item #		**7081-**	**7082-**	**7083-**	**7084-**	

Note 1 Viscosity Sufficient for Application
Note 2 Not Required

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