



## Technical Data Sheet

- REDUCING OPERATING COSTS AND IMPROVING PRODUCTIVITY.
- OUTSTANDING HYDRAULIC SYSTEM EFFICIENCY; ULTRA KEEP CLEAN PERFORMANCE

# Pure Tech HVI – Pure HDZ 46

Premium Quality HVI Hydraulic Oils

Pure Tech HVI – Pure HDZ 46 is high performance anti-wear hydraulic oils specifically designed to meet the needs of moder, high pressure, industrial and mobile equipment hydraulic systems.

Pure Tech HVI – Pure HDZ 46 is constructed from selected base oils and a proprietary additive system to provide well balanced performance in a range of applications. The products exhibit outstanding oxidation and thermal stability allowing long oil life and minimized deposit formation in severe hydraulic systems using high pressure, high output pumps. The innovative ultra keep clean performance protects critical hydraulic system components from malfunction, such as tight tolerance servo and proportional valves found in many modern hydraulic systems. The shear stable, high viscosity index allows for a wide operating temperature range maintaining maximum hydraulic efficiency and component protection at both low and high temperatures. Outstanding air release properties provide an added measure of protection in systems with low residence time helping to prevent cavitation damage and micro dieseling. The carefully selected base oil and additives allow passing results of acute aquatic toxicity testing (LC-50, OECD 203) and the zinc free anti-wear system provides a high degree of protection in gear, vane and piston pumps while also minimizing deposit formation.

### FEATURES AND BENEFITS

Pure Tech HVI – Pure HDZ 46 hydraulic oils provide outstanding hydraulic system efficiency; ultra keep clean performance, and a high degree of fluid durability. The hydraulic efficiency feature can lead to reduced energy consumption for both industrial and mobile equipment, reducing operating costs and improving productivity. Their excellent oxidation and thermal stability can help to extend oil and filter change intervals while helping to ensure clean systems. Their high level of anti-wear properties and excellent film strength characteristics result in a high degree of equipment protection that not only results in fewer breakdowns but helps improve production capacity.

FEATURES	ADVANTAGES AND POTENTIAL BENEFITS
Excellent Hydraulic Efficiency	Potentially reduced energy consumption or increased system responsiveness
Ultra Keep Clean Performance	Reduced system deposits leading to reduced machine maintenance and increased component life
Shear Stable, High Viscosity Index	Sustained component protection over a wide temperature
Oxidation and Thermal Stability	Extends fluid life even under harsh operating conditions
Good compatibility with elastomers and seals	Long seal life and reduced maintenance
Anti-wear properties	Helps reduce wear and protects pumps and components for extended equipment life
Excellent Air Separation Characteristics	Helps prevent aeration and cavitation damage in low residence time systems
Multi metal compatibility	Helps ensure excellent performance and protection with a wide variety of component metallurgy

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## MAIN APPLICATIONS

- Marine and industrial hydraulic systems operating at high pressures and temperatures in critical applications
- Hydraulic systems subject to deposit build-up such as sophisticated Computer Numerically Controlled (CNC) machines, particularly where close clearance servo-valves are used
- Systems where cold start-up and high operating temperatures are typical
- Systems requiring a high degree of load-carrying capability and anti-wear protection
- Machines employing a wide range of components using various metallurgy

## TYPICAL PHYSICAL CHARACTERISTICS

PROPERTIES			METHOD	HVI – PURE HDZ 46
ISO Viscosity Grade				46
Kinematic Viscosity	cSt @40°C		ASTM D445	45.6
Kinematic Viscosity	cSt @100°C		ASTM D445	8.45
Viscosity Index			ASTM D2270	164
Brookfield Viscosity	cp -20°C		ASTM D2983	1870
Brookfield Viscosity	cp -30°C		ASTM D2983	7060
Brookfield Viscosity	cp -40°C		ASTM D2983	55770
Tapered Roller Bearing	%	Viscosity Loss	CEC L-45-A-99	7
Density	15°C	kg/L	ASTM D4052	0.8502
Copper Strip Corrosion	3hrs @100°C		ASTM D130	1B
FZG Gear Test		Fail Stage	DIN 51354	12
Pour Point		°C	ASTM D97	-45
Flash Point		°C	ASTM D92	232
Form Squence I, II, III		ml	ASTM D892	20/0
Dielectric Strength		kv	ASTM D877	41
Acute Aquatic Toxicity			LC-50, OECD 203	pass

## HEALTH, SAFETY & ENVIRONMENT

### Health and Safety

Pure Tech HVI – Pure HDZ 46 is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

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