

# PureDrill™ HT-40

## Drilling Mud Base Fluid



### Performance and Safety

Petro-Canada's PureDrill HT-40 drilling mud base fluid provides enhanced performance compared to diesel-based systems. PureDrill HT-40 represents a breakthrough for producers who want to maximize drilling efficiency while improving health, safety and environmental practices.

Potential Performance Benefits	PureDrill-Based	Diesel-Based	Water-Based
Improved hole stability versus water-based mud	✓	✓	✗
Enhanced rates of penetration	✓	✗	✗
Reduced bit runs	✓	✗	✗
Reduced environmental impact	✓	✗	✓
Reduced risk of fire	✓	✗	✓
Faster and safer cleanup	✓	✗	✓
Virtually non-toxic, odourless, biodegradable	✓	✗	✓

### Environmental, Health & Safety Benefits

PureDrill HT-40 is a unique blend of synthetic isoalkane fluid and severely hydrocracked low toxicity mineral oil.



Petro-Canada produces PureDrill using the HT purity process combined with hydroisomerization. The result is pure drilling mud base fluid that's clear like water, virtually non-toxic and environmentally friendly.

Here are the advantages:

- Reduced toxicity. Not controlled under OSHA or WHMIS
- Extremely low PNA content well below AEUB Tier 1 standards
- Helps reduce disposal costs
- Low aromatics and toxicity allow biodegradation at significantly higher hydrocarbon concentrations
- Faster biodegradation of oil on cuttings
- PureDrill HT-40 features a higher flash point than diesel, helping to reduce the risk of fire or explosion
- Faster, safer rig cleanup
- Helps to eliminate skin and eye irritation that can result from exposure to diesel-based systems

### Facts about PureDrill HT-40

PureDrill HT-40 has been proven to enhance the performance of drilling mud with results showing reduced drilling costs, less downtime and faster drilling times.

- Increases lubricity and hole stability
- Suitable for use in higher temperature applications
- Helps to enhance rates of penetration
- Potentially improves drill bit life
- Helps reduce bit balling
- Helps improve BOP seal life
- Helps reduce corrosion (as a rust inhibitor)
- Helps control formation reactivity
- Minimal impact on many elastomers
- Proven effective for use as a:
  - Heat string fluid
  - Base gel fluid
  - Differential fluid
  - Diluent for liquid mud additives
  - ROP Enhancer

Dependable Supply Today and Tomorrow

- Delivery to where and when you need it
- Petro-Canada maintains inventory at its depot in Edmonton, Alberta
- Available only from Petro-Canada - one of the world's most dependable producers of advanced fluids

## Typical Performance Data

PROPERTY	TEST METHOD	PETRO-CANADA PUREDRILL™ HT-40	DIESEL (ULSD)
PM Flash Point, °C/°F Hazardous Material Label Combustible Liquid (OSHA)	ASTM D93	119/246 No	64/147 Yes
Saturates, weight % Aromatics, weight % UV	PCM 435	97.5 2.5	74.5 25.5
BTEX, ppm Benzene Toluene Ethylbenzene Xylene	GC/MS Method	<1 <1 <1 <1	>3000 42 645 391 2189
Polynuclear Aromatic, ppm	HRMS EPA Method	<10	>1300
Visual Pollution	Sheen	No	Yes
Density, kg/L @ 15°C (60°F)	ASTM D4052	0.84	0.84
Viscosity, cSt @ 40°C SUS @ 100°F	ASTM D445 ASTM D445	3.7 38.2	1.6 to 2.4
Colour	ASTM D1500	<0.5	Yellow
Aniline Point, °C/°F	ASTM D611	78/172	60/140
Pour Point, °C/°F	ASTM D5950	-18/0 summer, -33/-27 winter	-27/-17
Sulfur, wppm	ASTM D5453	<2	6
<b>Base Oil Toxicological Summary</b>			
Trout toxicity, LC <sub>50</sub> at 96 hours, mg/L		>500,000*	Fail
MICROTOX™	EPS 1/RM/24	Pass (EC50 >91%)*	Fail (EC50 <1.4%)
Biodegradability, %	OECD 301B or 306 @ 28 days	20 to 60 (inherently biodegradable)*	
<b>Human Health &amp; Safety</b>			
Acute Oral LD <sub>50</sub> (rat), mg/kg		>5000 (Virtually Non-toxic)	Toxic
Acute Dermal LD <sub>50</sub> (rabbit), mg/kg		>2000 (Not An Irritant)	Irritant
Acute Eye Irritation / Corrosion		Slightly Irritating	Irritant
Inhalation TLV <sup>1</sup> , mg/m <sup>3</sup>		5	Irritant
Mutagenicity	Modified Ames	Negative	
Potential Carcinogenic Label		No	Yes

<sup>1</sup> - Quantity a person can be exposed to in an 8 hour period. TLV is a registered trademark of American Confederation of Government Industrial Hygienists.

\* Results obtained with a similar product.

The values quoted above are typical of normal production. They do not constitute a specification.

™MICROTOX is a registered trademark of Microbics Corp.

## Rubber Compatibility

PureDrill HT-40 has significantly better elastomer compatibility in comparison with diesel (eg with Buna-N rubber). This has the potential of lengthening the life span of articles, which are either made of elastomers or those that incorporate elastomer components.



## Health & Safety

To obtain Material Safety Data Sheets (MSDS), contact one of our TechData Info Lines.



## TechData Info Lines

To place an order, please call a Customer Order Management Representative at:

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