HOLLYFRONTIER BASE OILS | PETRO-CANADA BASE OILS

PURITY™ Base Oils

The clear choice from start to finish.

Petro-Canada PURITY Group II and Group II+ base oils are recommended for blending and compounding in a wide range of automotive, industrial and specialty lubricants. The use of PURITY base oils in formulations can minimize the amount of synthetic basestocks needed to achieve synthetic blend performance.

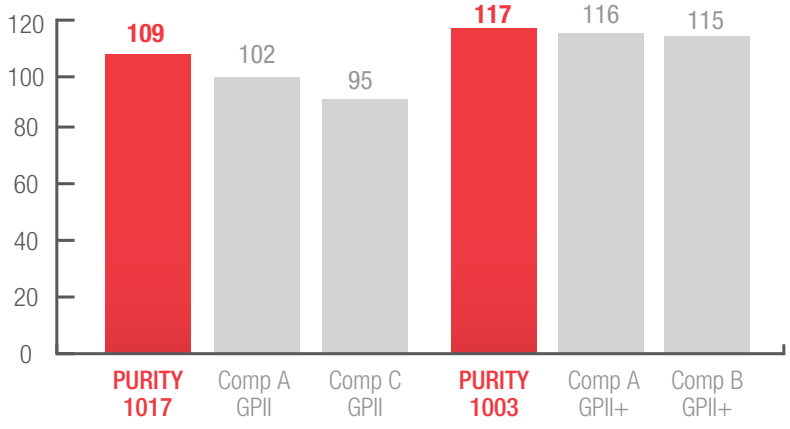
FEATURES

- High purity
- High viscosity index
- Low volatility
- Excellent low temperature properties
- Excellent oxidative and thermal stability

BENEFITS

- Very capable of meeting current conventional specifications
- Good response to additives
- Group II+ excels as an adjustment stock to optimize cost and performance

Viscosity Index (ASTM D2270)



Benchmarking Results

High VI oils are preferred for service in which a constant viscosity is desired under conditions of varying temperature. Viscosity stability contributes to greater fuel efficiency in motor oils and reduced power consumption in industrial lubricants.

Clear Advantage

RELIABLE SUPPLY AND WORLD CLASS SUPPORT

- Over 40 years of experience producing base oils that are among the purest in the world
- Consistent and reliable quality
- Strategically located to deliver bulk shipments by rail, truck and marine globally to meet your needs
- Produced under ISO 9001, ISO/TS 16949 registered quality management system
- Produced under ISO 14001 registered environmental management system
- World class R&D and an experienced team to support your business
- A full range of PURITY base oils available to meet customer requests

TYPICAL PROPERTIES OF PURITY BASE OILS

PROPERTY	ASTM TEST METHOD	PRODUCT NAME L35	L40	L45	L50	L60	L65
Density @ 15°C, kg/L	D4052	0.83	0.84	0.85	0.85	0.86	0.83
Color, ASTM	D1500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Viscosity							
@ 40°C, cSt	D445	3.8	3.6	6.3	5.5	9.6	9.3
@ 100°C, cSt	D445	1.4	1.4	1.9	1.8	2.5	2.5
SUS @ 100°F	D2161	39	38	48	45	53	59
Viscosity Index	D2270	-	-	-	-	87	92
Pour Point, °C (°F)	D5950	-61 (-78)	-27 (-17)	-24 (-11)	-12 (10)	-21 (-6)	-42 (-44)
Flash Point, PM, °C (°F)	D93	127 (261)	117 (243)	125 (257)	142 (288)	159 (318)	175 (347)
Flash Point, COC, ºC (°F)	D92	134 (273)	126 (261)	130 (266)	152 (306)	178 (352)	185 (367)
% Saturates	PCM435	99.9	96.7	-	97.7	-	99.9
% Aromatics	PCM435	<0.1	3.3	-	2.3	-	0.1
Sulfur, ppm	D5453	-	-	-	-	-	<1

PROPERTY	ASTM TEST METHOD	PRODUCT NAME 1003	1017	1020	2204	2305
Density @ 15°C, kg/L	D4052	0.84	0.85	0.86	0.86	0.86
Color, ASTM	D1500	<0.5	<0.5	<0.5	<0.5	<1.0
Viscosity						
@ 40°C, cSt	D445	21.7	21.4	20.9	40.0	45.4
@ 100°C, cSt	D445	4.5	4.3	4.2	6.3	7.0
SUS @ 100°F	D2161	113	109	111	206	231
Viscosity Index	D2270	117	109	93	103	113
Pour Point, °C (°F)	D5950	-24 (-11)	-21 (-6)	-21 (-6)	-18 (0)	-18 (0)
Flash Point, PM, °C (°F)	D93	207 (405)	191 (376)	199 (390)	213 (415)	223 (433)
Flash Point, COC, ºC (°F)	D92	226 (439)	217 (423)	207 (405)	233 (451)	242 (468)
Cold Crank Simulator						
@ -20°C, cP	D5293	-	861	935	2708	2770
@ -25°C, cP	D5293	1300	1330	1716	5361	5660
@ -30°C, cP	D5293	1876	2511	3438	-	-
@ -35°C, cP	D5293	2390	5004	7415	-	-
NOACK Volatility, % wt	D5800	15.8	22.4	33.6	10.0	9.7
% Saturates	PCM435	99.9	99.9	99.9	99.9	99.9
% Aromatics	PCM435	0.1	0.1	0.1	0.1	0.1
Sulfur, ppm	D5453	<1	<1	<1	<10	<5

To learn more about how our base oils can help your business visit:
lubricants.petro-canada.com
or contact us at **lubecsr@hollyfrontier.com**

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