

Specifications and Typical Properties for STAR Base Oils

Parameter	Sales Code		STAR 2			STAR 4			STAR 6			STAR 12		
	Test	Units	500009293			500009291			500009290			500009292		
			Code 7249			Code 7239			Code 7234			Code 7242		
			Min	Max	Typ	Min	Max	Typ	Min	Max	Typ	Min	Max	Typ
API Group (API 1509 E.1.3)						Group II			Group II			Group II		
Viscosity														
@ 100°C	D445	cSt			2.62	3.8		4.15	6.1		6.49	11.7		11.9
@ 40°C	D445	cSt	9.0	11.0	10.70	18.0	22.0	20.5	40.0	46.0	42.2	107	120	111
@ 100°F	Calculated	SUS			64			108			217			579
Viscosity Index	D2270					95		103	95		104	95		96
Sulfur, X-Ray	D2622	ppm		300	< 10		300	< 10		300	< 10		300	< 25
Aromatics	Motiva	%w		2.0	1.0		2.0	1.5		2.0	1.5		7.0	6.0
Volatility														
NOACK	D5800 (B)	% M/M					28.0	24.3		13.0	11			2
GC, Sim Dist at 700°F (371°C)	D6417	%					17.0	13.1		7.0	5			1
Dynamic Viscosity														
CCS @ -25°C	D5293	cP					1,550	1,300						
CCS @ -20°C	D5293	cP								3,900	3,100			
Brookfield ⁽¹⁾ @ -40°C	Motiva	cP						12,500						
Appearance	Visual		Clear & Bright			Clear & Bright			Clear & Bright			Clear & Bright		
Color, ASTM	D1500						1.0	L0.5		1.0	L0.5		1.0	L0.5
Color, Saybolt	D156		Report		+30									
Pour Point	D5950	°C		-33	-40		-12	-15		-12	-15		-12	-15
Flash, COC	D92	°C	170		174	199		206	216		226	250		263
API Gravity	D4052	°API	Report		31.5	Report		34.3	Report		31.8	Report		29.7
Specific Gravity, 60°F/60°F	D4052				0.8683			0.8536			0.8667			0.8780

⁽¹⁾ Product tested with 0.25wt% PPD. Brookfield targeted to limit of 19,000 cP for STAR 4.

effective 01/01/2015