



# **NyeTorr® & NyeClean™**

*The most complete lines of lubricants  
for vacuum and cleanroom applications*





# Nye Comparative Chart

## Lubricants for Vacuum & Cleanroom Applications

Product Name	Temperature Range (°C)	Base Oil Chemistry	Thickener Type	Base Oil Viscosity		NLGI Grade ASTM D-217	Oil Separation (24 hrs, 100 °C)	Evaporation (24 hrs, 100 °C)	Vacuum Stability		Vapor Pressure Knudsen (25°C)
				ASTM D-445 (cS) 100 °C	40 °C				ASTM E-595 (% wt) TML	CVCM	
<b>NyeTorr 5200</b>	-45 to 125	MAC	PTFE	15	108	1	2.8%	0.00%	0.132	0.032	4 x 10 <sup>-12</sup> Torr
<b>NyeTorr 5300</b>	-65 to 250	PFPE	PTFE	45	140	1-2	5.8%	0.02%	0.320	0.045	6 x 10 <sup>-11</sup> Torr
<b>NyeTorr 5350</b>	-55 to 250	PFPE	PTFE	28	152	2	5.6%	0.00%	TBD	TBD	TBD
<b>NyeTorr 5380</b>	-10 to 250	PFPE	PTFE	58	800	3	2.5%	0.00%	TBD	TBD	1 x 10 <sup>-13</sup> Torr
<b>NyeClean 5011</b>	-54 to 125	PAO	Lithium Soap	6.4	33	2	2.0%	0.10%	N/A	N/A	N/A
<b>NyeClean 5011A</b>	-54 to 125	PAO	Lithium Soap	6.4	33	3	0.0%	0.05%	N/A	N/A	N/A
<b>NyeClean 5023</b>	-30 to 150	Ester	Urea	14	120	3	1.1%	0.13%	TBD	TBD	TBD
<b>NyeClean 5033F</b>	-40 to 180	ADE	Urea	11.8	94.4	3	0.0%	0.00%	TBD	TBD	TBD
<b>NyeClean 5067</b>	-65 to 250	PFPE	PTFE	45	150	3	3.4%	0.00%	0.399	0.108	2.17 x 10 <sup>-8</sup> Torr
<b>NyeClean 5077</b>	-55 to 250	PFPE	PTFE	28	152	2	5.9%	0.02%	0.812	0.067	TBD
<b>NyeClean 5087</b>	-40 to 250	PFPE	PTFE	200	700	2	3.3%	0.03%	0.612	0.088	TBD
<b>NyeClean 5088</b>	-10 to 250	PFPE	PTFE	58	800	2-3	1.7%	0.00%	0.039	0.022	1 x 10 <sup>-13</sup> Torr
<b>NyeClean 5097</b>	-65 to 250	PFPE	PTFE	45	140	2	4.6%	0.04%	0.408	0.072	9 x 10 <sup>-11</sup> Torr
<b>NyeClean 5097R</b>	-65 to 180	PFPE	PTFE	45	140	1-2	6.9%	0.17%	1.227	0.088	N/A
<b>NyeVac 9720</b>	-40 to 150	Ester	N/A	9.7	61	N/A	N/A	0.06%	0.327	0.086	2 x 10 <sup>-7</sup> Torr
<b>NyeVac 9721</b>	-40 to 150	Ester	Lithium Soap	9.7	61	2	1.9%	0.10%	0.942	0.467	2 x 10 <sup>-7</sup> Torr
<b>NyeVac 9724</b>	-40 to 150	Ester	PTFE	9.7	61	0	8.9%	0.07%	TBD	TBD	2 x 10 <sup>-7</sup> Torr

The typical properties shown on this document should not be used as a basis for preparing specifications.

-  Vacuum Application Lubricants
-  Cleanroom Application Lubricants
-  Vacuum Pump Lubricants



Density (g/cc)	SRV Coefficient of Friction & Wear ASTM D-5707 (100N, 40°C)		4-Ball Wear - ASTM D-2266				Low Temperature Torque ASTM D-1478 (gm-cm)		Microscopic Particulate Contamination	Product Name
			Wear Scar		Coefficient of Friction		Starting	10-min run		
	CoF	Ball Scar	20 kg	40 kg	20 kg	40 kg				
1.05	0.114	0.44 mm	0.50 mm	0.59 mm	0.114	0.100	221	274	< 300 particles/cc, < 35µm	<b>NyeTorr 5200</b>
1.91	0.159	0.68 mm	0.76 mm	1.30 mm	0.124	0.103	236	142	< 300 particles/cc, < 35µm	<b>NyeTorr 5300</b>
1.91	0.139	0.65 mm	0.44 mm	1.07 mm	0.092	0.120	221	118	< 250 particles/cc, < 35µm	<b>NyeTorr 5350</b>
1.91	0.219	1.22 mm	0.74 mm	1.58 mm	0.148	0.130	177	94	< 100 particles/cc, < 35µm	<b>NyeTorr 5380</b>
0.89	0.115	0.44 mm	0.45 mm	0.93 mm	0.091	0.082	177	133	N/A	<b>NyeClean 5011</b>
0.87	0.111	0.44 mm	0.46 mm	0.62 mm	0.055	0.067	354	183	N/A	<b>NyeClean 5011A</b>
0.98	0.131	0.78 mm	0.78 mm	1.02 mm	0.132	0.092	384	184	< 500 particles/cc, < 35µm	<b>NyeClean 5023</b>
0.95	0.120	0.46 mm	0.51 mm	0.62 mm	0.114	0.086	384	56	< 500 particles/cc, < 35µm	<b>NyeClean 5033F</b>
1.90	0.141	0.65 mm	0.96 mm	1.36 mm	0.064	0.106	280	189	< 1000 particles/cc, < 35µm	<b>NyeClean 5067</b>
1.90	0.135	0.47 mm	0.59 mm	1.56 mm	0.085	0.118	177	96	N/A	<b>NyeClean 5077</b>
1.90	0.211	1.13 mm	0.58 mm	1.66 mm	0.117	0.115	89	41	< 1000 particles/cc, < 35µm	<b>NyeClean 5087</b>
1.91	0.364	1.29 mm	1.06 mm	1.47 mm	0.167	0.121	295	162	< 500 particles/cc, < 35µm	<b>NyeClean 5088</b>
1.91	0.127	0.63 mm	0.61 mm	1.57 mm	0.111	0.153	177	93	< 750 particles/cc, < 35µm	<b>NyeClean 5097</b>
1.91	0.140	0.59 mm	0.44 mm	0.70 mm	0.106	0.097	192	114	< 500 particles/cc, < 35µm	<b>NyeClean 5097R</b>
1.00	0.129	0.65 mm	0.55 mm	0.93 mm	0.108	0.111	N/A	N/A	No particle > 50µm	<b>NyeVac 9720</b>
1.00	0.100	0.56 mm	0.68 mm	1.02 mm	0.138	0.104	177	89	< 1000 particles/cc, < 35µm	<b>NyeVac 9721</b>
1.00	0.118	0.69 mm	0.73 mm	0.91 mm	0.104	0.107	59	30	< 500 particles/cc, < 35µm	<b>NyeVac 9724</b>

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