

TYPICAL PHYSICAL PROPERTIES of NICCA's NKVAC PT Series of PFPE OILS

ITEMS	METHODS	MEASUREMENT CONDITION	PT-01	PT-71	PT-02	PT-82	PT-53	PT-54 (new)	PT-05	PT-57	PT-001	
Molecular Weight	GPC		1,000	1,700	2,000	2,800	3,500	4,500	5,400	7,500	10,000	
Kinematic Viscosity (mm ² /s)	ASTM D445	20°C	7.5	41	68	140	260	520	703	1,630	3,024	
		40°C		17	27	49	84	160	201	443	780	
		50°C				32	53				246	
		100°C		3.3	5	7	11	18	22	37	71	
Viscosity Index	ASTM D2270			45	80	102	110	122	128	127	166	
Pour Point (°C)	ASTM D97				-60	-54	-36	-35	-31	-24	-15	
Evaporation Loss (wt%, 22hr)	ASTM D2595	121°C		14	4.2	<3	<1	<1	0	0	0	
		149°C			17.6	4.1	1.3	<1	0	0	0	
		204°C					11.2	2.0	1.0	0.1	0	
		260°C					65.0		9.0	1.9	0.4	
Thermal Decomposition (°C)	TGA	99.9wt% loss.			332	369	411		469	524	567	
Surface Tension (mN/m)	ASTM D1331	20°C		18	18	18	19	19	19	19	20	
Density (g/cm ³)	ASTM D4052	20°C		1.87	1.88	1.89	1.90	1.91	1.91	1.91	1.92	
Average Wear Scar (mm)	ASTM D4172	75°C×1hr., 1200 rpm, 40kg				0.63	0.63		0.46	0.63		

Confidential Information of NICCA CHEMICAL

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DATE : Dec. 01. 2021.

CERTIFICATION

We hereby certify that the following mentioned product(s) contain or not contain the restricted 147 substances which are listed in the content of 'PFHxSとその塩及びPFHxS関連物質物質リスト (List of PFHxS and its salts · PFHxS related substances)'.

- **Product Name** : PT-57, PT-54, PT-06, PT-02

1) PFHxS and its salts · PFHxS related substances(147 substances) : Not contained.

※ This certification is based on the information currently available to us, and there is no guarantee in the future. In addition, we do not guarantee any products manufactured using our products.

NICCA KOREA CO., LTD
Quality Assurance Dept.

Kim. Gwang-Hyun
Manager