



TPS[®] and VPS ANTI-WEAR AND EXTREME PRESSURE ADDITIVES

TPS 20	TPS 32	TPS 44	VPS 15
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Chemical descriptive	Dialkyl trisulfide	Dialkyl pentasulfide	Dialkyl trisulfide	Sulfurized vegetable fatty esters
CAS number	68425-15-0	68425-15-0	68937-96-2	68153-70-8
EINECS registration	270-335-7	270-335-7	273-103-3	conform

		Method				
Sulfur content (weight %)		ASTM D 4294	21.5	30.5	44	15
Active Sulfur @ 150°C (weight %)		ASTM D-1662	4	23	18	8
Kinematic viscosity @ 40°C (mm²/s)		ASTM D-445	53	164	5	550 - 750
Flash Point (°C)		Closed Cup ASTM-D 93	139	139	93	148
		Open Cup ASTM D 92	175	163	114	180
Color		Gardner ASTM-D 1544	2	6	4	15
		ASTM-D 1500	0.3	1	0.5	5
Pour Point (°C)		ASTM- D97-96a	≤ -20°C	≤ -20°C	≤ +10°C	≤ -10°C
Copper Corrosion Loading = 2% in ISO VG32 paraffinic base oil Time = 3h, Temperature = 100°C		ASTM-D 130	1a-1b	4a-4c	1a-1b	1a-1b
Four Ball test* (Welding Load, kg)		ASTM-D 2783	315	500	400	400
Metallworking fluids	Machining	Ferrous	•	•		•
		Non-Ferrous	•			•
	Forming	Ferrous	•	•		•
		Non-Ferrous	•			•
	(semi-) synthetic fluids		•	•		•
	Gear Oils		•		•	
Greases		•	•	•	•	

(*) 5% by weight in a paraffinic base oil