

## Metalworking Additives Technical Data Sheet – Product Line Review

Zschimmer & Schwarz offers a wide variety of additive technology used to formulate high performance metal forming and metal removal fluids.

► **Maximize heat transfer and coolant life.** ► **Improve surface finish and corrosion protection.** ► **Reduce friction and manufacturing costs.**

Product Name	Chemistry	Composition	Performance	State @ Room Temperature	pH*	Specific Gravity, 25°C
<b>PEG/PPG Esters/Ethers</b>	Class	Fatty Acid Composition	HLB #	Physical State	pH	S.G. 25C
MULSIFAN 200 DO	PEG Ester	Di-oleate	5.3	Liquid	6	0.94
MULSIFAN 400 MO	PEG Ester	Mono-oleate	11.8	Liquid	6	1.01
MULSIFAN 600 MO	PEG Ester	Mono-oleate	13.6	Liquid	6	1.03
MULSIFAN 1000 MS	PEG Ester	Mono-stearate	15.5	Solid	6	1.05
MULSIFAN SML-20	PEG Ester	Sorbitan 20 monolaurate	16.7	Liquid	5.5	1.07
MULSIFAN L101 DS	EO/PO Ester	Di-stearate	N/A	Liquid	6	1.00
MULSIFAN L61 DT	EO/PO Ester	Di-tallate	N/A	Liquid	6	0.99
MULSIFAN RT 11	Polyglycol Ether	Proprietary mix	15.8	Solid	6	1.01
MULSIFAN RT 133	Polyglycol Ether	Proprietary mix	9.0	Liquid	6	0.97
MULSIFAN SCO	Sodium Salt	Sulfated Castor Oil	N/A	Liquid	7.5	1.05
<b>Acid Phosphate Esters</b>	Class	Fatty Alcohol Composition	Phosphorus %	Physical State	pH	S.G. 25C
PHOSPHEAL 2-EH	Acid	2-Ethylhexyl	11.6	Liquid	2	1.02
PHOSPHEAL 8147 K	K Salt	POE(4) • C8-C10	4.1	Liquid	7	1.11
PHOSPHEAL DA 6	Acid	POE(6) • iC10	5.0	Liquid	2.5	1.04
PHOSPHEAL OAX	Acid	POE(4) • C18:1	5.0	Liquid	2	1.03
PHOSPHEAL TDA	Acid	iC13	5.5	Liquid	2.5	1.06
PHOSPHEAL TEA 80	Acid	TEA-Polyphosphate	18.0	Liquid	2	1.48
<b>Phosphonates</b>	Class	Composition	Phosphorus %	Physical State	pH	S.G. 25C
CUBLEN AP 5	Acid	ATMP	4.2	Liquid	2	1.30
CUBLEN DNC 450	Acid	DTPMPA	12.2	Liquid	<2	1.49
CUBLEN K 60	Acid	HEDP	9.0	Liquid	2	1.45
CUBLEN P 50	Acid	PBTC	5.8	Liquid	2	1.29
CUBLEN R 60	Acid	HEMPA	14.9	Liquid	<2	1.37
<b>Amides</b>	Class	Composition	Color	Physical State	pH	S.G. 25C
PURTON 9481/2	DIPA Amide	Di-isopropyl amine	Amber	Liquid	10	0.96
PURTON 9502	TOFA AMP	Tall Oil Fatty Acid	Amber	Solid	10	0.92
PURTON 9509	Oleic MIPA	Mono-isopropyl amine	Amber	Liquid	10.5	0.93
<b>Sorbitan Esters</b>	Chemistry	Pour Point, °C	Flash Point, °C	KV40, cSt	VI	KV100, cSt
LUBRICIT SMO	Mono-oleate	0	270	424	75	25
LUBRICIT STO	Tri-oleate	-30	230	110	135	14
LUBRICIT SML	Monolaurate	5	215	1435	0	36

\*pH measured as 5% product in distilled water.

Please inquire about additional tailor-made products that can be made to fit your exact performance requirements.

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