



MAMMALIAN TOXICOLOGY OF ALCOHOL ETHOXYLATES

Applicable to these current Stepan products:

BIO-SOFT® 35-7	BIO-SOFT® AE-3	BIO-SOFT® E-670
BIO-SOFT® E-678	BIO-SOFT® E-840	BIO-SOFT® E-847
BIO-SOFT® EC-600	BIO-SOFT® EC-639	BIO-SOFT® EC-690
BIO-SOFT® EN-600	BIO-SOFT® EN-695	BIO-SOFT® EN8-90
BIO-SOFT® ET-650	BIO-SOFT® FF-400	BIO-SOFT® FF-600
BIO-SOFT® GSB-9	BIO-SOFT® N-1200	BIO-SOFT® N-400
BIO-SOFT® N-600	BIO-SOFT® N-900	BIO-SOFT® N-901
BIO-SOFT® N-905	BIO-SOFT® N1-3	BIO-SOFT® N1-5
BIO-SOFT® N1-7	BIO-SOFT® N1-73B	BIO-SOFT® N1-9
BIO-SOFT® N23-3	BIO-SOFT® N23-5	BIO-SOFT® N23-6.5
BIO-SOFT® N25-12	BIO-SOFT® N25-3	BIO-SOFT® N25-7
BIO-SOFT® N25-9	BIO-SOFT® N45-7	BIO-SOFT® N91-2.5
BIO-SOFT® N91-6	BIO-SOFT® N91-8	BIO-SOFT® TD-630
MAKON® DA-6	MAKON® TD-12	MAKON® TD-18
MAKON® TD-3	MAKON® TD-30	MAKON® TD-50
MAKON® TD-6	MAKON® TD-8	MAKON® TD-9
p4mX® 1-5	p4mX® 1-7	p4mX® 25-7
p4mX® 25-79	p4mX® 400	p4mX® 900
p4mX® 91-6	p4mX® 91-8	POLYSTEP® TD-129
POLYSTEP® TD-189	POLYSTEP® TD-3	POLYSTEP® TD-6
STEPANTEX® TD-560	STEPANTEX® TD-630	p4mX® 1-9
		p4mX® 23-6.5
		p4mX® 24-23
		p4mX® 24-24
		p4mX® 24-5
		p4mX® 24-7
		p4mX® 24-9
		p4mX® 25-9
		p4mX® 91-2.5
		p4mX® 25-3

Applicable to these inactive Stepan products:

BIO-SOFT® AE-1	BIO-SOFT® AE-2	BIO-SOFT® EA-10
BIO-SOFT® EA-8	POLYSTEP® AE-120	

Toxicological Information:

<u>Test/Conditions</u>	<u>Results/Classification</u>	<u>References*</u>
Acute Oral Toxicity (rat) (14 day) (gavage)/ n = 5/dose/sex	AEs with 5-12 moles of EO: LD50 \geq 600 mg/kg (slightly toxic orally @ 100% concentration) AEs with < 5 or > 12 moles of EO: LD50 > 2000 mg/kg (slightly toxic orally @ 100% concentration)	HERA & EHSMS, Stepan Study No. 97-006A
Acute Dermal Toxicity (rabbit)(14 day) N=5/dose/sex	LD50 > 2000 mg/kg (slightly toxic dermally @ 100% concentration)	HERA & EHSMS, Stepan Study No. 97-006B
Primary Dermal Irritation/Corrosivity (rabbit)(4 hr exposure)	AEs with varying carbon chain lengths and ethoxylation degree were found to be slightly to severely irritating to skin in rabbits and rats. Generally, undiluted materials were moderate to severe skin irritants, whereas 1% aqueous solutions were mildly irritating and 0.1% to 0.5% aqueous solutions were usually not irritating.	HERA & EHSMS, Stepan Study No. 97-006C
Primary Eye Irritation/Corrosivity (rabbit) (21 day observation)	The degree of irritation is concentration dependant as dilutions in water cause proportionally lower irritation. Generally, concentrations of 0.1% were non-irritating, and concentrations of 1 to 10% ranged from slight to moderately irritating. Undiluted AEs cause irreversible eye damage.	HERA & EHSMS, Stepan Study No. 97-006E
Dermal Sensitization (Buehler and LLNA)(guinea pig)	Not a dermal sensitizer	HERA & EHSMS
Human Repeat Insult Patch Test (HRIPT) (24 hr exposure)	Not a skin sensitizer	HERA & EHSMS
Genotoxicity (in-vitro & in-vivo) (AMES Test)(Chromosomal aberration assay)(Micronucleus test)	Non-mutagenic	HERA & EHSMS
Sub-chronic Oral Toxicity (rat)(13 weeks)(diet or gavage)	Oral exposures up to 500 mg/kg bw/day produced no significant adverse effects.	HERA & EHSMS
Sub-chronic Dermal Toxicity (rat)(13	NOAEL** = 10% or 80 mg/kg	HERA & EHSMS

weeks) (doses: 0, 1, 10, or 25% by wt)	bw/day (no significant compound related effects observed up to highest dose level)	
Chronic Oral Toxicity (rat) (104 weeks) (diet) (doses: 0, 50, 250 or 500 mg/kg/day)	No tumors or other treatment related lesions were observed	HERA & EHSMS
Chronic Dermal Toxicity (mouse)(18 months)(doses: 0,0.2, 1.0 or 5.0%)	No treatment related lesions observed	HERA & EHSMS
Reproductive/Developmental Toxicity (rats)(dermal application, diet, or gavage)(doses up to 250 mg/kg/day)	No treatment related changes in reproduction/developmental parameters observed	HERA & EHSMS
**NOAEL = No Observed Adverse Effects Level		

References:

*Human and Environmental Risk Assessment (HERA) on ingredients of European household cleaning products, 2009.

*Environmental and Human Safety of Major Surfactants (EHSMS), (AE & APE) S.S. Talmage, Lewis Publishers, 1994.

BIO-SOFT® ; MAKON® ; p4mX® ; POLYSTEP® ; STEPANTEX® are registered trademarks of Stepan Company.

Last Update: [July 31, 2023](#)

Revision Reference: [TX010.12](#)

Nothing contained herein grants or extends a license, express or implied, in connection with patents, issued or pending, of the manufacturer or others. The information contained herein is based on the manufacturer's own study and the works of others. The manufacturer makes no warranties, expressed or implied, as to the accuracy, completeness, or adequacy of the information contained herein. The manufacturer shall not be liable (regardless of fault) to the vendee's employees, or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of such information.