Technical Information | **Stepan**

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MAMMALIAN TOXICOLOGY OF DIALKYL DIMETHYL AMMONIUM CHLORIDES (DDAC)

Applicable to these current Stepan products:

BTC® 1010 BTC® 818-80% STEPANQUAT™ 1010	BTC® 1010-80% STEPANQUAT® 818 STEPANQUAT™ 1010-80%	BTC® 818 STEPANQUAT® 8188

Applicable to these inactive Stepan products:

BTC® 99		

Toxicological Information:

Test/Conditions	Results/Classification	References
Acute Oral Toxicity (rat) (14 day) (gavage) n=10/dose	LD_{50}(Lethal Dose) = 50-500 mg/kg. (moderately toxic orally at 50% active)	Stepan Study No. 87-005C
Acute Dermal Toxicity (rabbit) (14 day) (dermal) n=5/sex/dose	LD_{50} > 2000 mg/kg. (slightly toxic dermally at 50% active)	Stepan Study No. 87-005D
Primary Eye Irritation (rabbit) (1 hr. observation) n=1	Corrosive to eyes at 80% active. Only one animal used due to the severity of reaction.	Stepan Study No. 91-041B
Primary Skin Irritation (rabbit) (4 hr. exposure) n=1	Severe irritation at 24 hrs at 80% active. Only one animal tested due to the severity of reaction.	Stepan Study No. 91-041A
Two-Week Skin Irritation Study (rat) (screen) 5 days/week n=6	Treatment with the 0.6% or lower did not cause skin irritation.	Stepan Study No. 88-035A

Photoallergy Study (Buehler test) (guinea pig)	There was no evidence of photoallergy or contact sensitization at 0.1%.	Stepan Study No. 91-041C
Subchronic Oral Toxicity (rat) (90-day) (diet)	No treatment related effects observed at 1000 ppm or less.	Stepan Study No. 88-028A
Subchronic Dermal Toxicity (rat) (90 Day) (occluded)	No systemic toxicity observed up to 12 ml/kg/day.	Stepan Study No. 88-033A
Chronic Oral Toxicity (dog) (gavage) (1 year) n=32	No effects for systemic toxicity observed at 10 mg/kg/day. Treatment did not have any effect on the incidence of tumors.	Stepan Study No. 91-037A
Chronic/Oncogenicity (rat) (diet) (2 years) n=60/sex/dose	No effects levels were determined to be at or less than 750 ppm. Treatment had no effect on survival or the incidence of tumors.	Stepan Study No. 91-036A
Chronic/Oncogenicity (mouse) (diet) (78 weeks) n=60/dose/sex	No effect levels were determined to be at or less than 500 ppm. Treatment did not have any effect on survival or tumor incidences.	Stepan Study No. 91-034A
Developmental Toxicity (rabbit) (gavage) n=80	No effect levels at 1 mg/kg/day were determined for maternal toxicity. Treatment had no effects on fetal development.	Stepan Study No. 89-022A
Developmental Toxicity (rat) (gavage) n=25	No effect levels at 1 mg/kg/day were determined for maternal toxicity. Treatment had no effects on fetal development.	Stepan Study No. 91-035A
Two-Generation Reproduction Study (rat)(diet) n=56/dose	No effect levels for parental and postnatal toxicity were determined to be at or less than 750 ppm. Treatment did not have an effect on any of the reproductive parameters.	Stepan Study No. 91-033A
Salmonella/Mammalian Microsome Assay (Ames Test)	Non-mutagenic.	Stepan Study No. 01-051A
Chromosomal Aberration Assay Chinese/Hamster Ovary Cell In vitro	Non-mutagenic.	Stepan Study No. 86-018A

(Mutagenicity Test)		
CHO/HGPRT Forward Mutation Assay (Mutagenicity Test)	Non-mutagenic.	Stepan Study No. 89-029A
Unscheduled DNA Synthesis (rat liver cells) (Mutagenicity Test)	Non-mutagenic.	Stepan Study No. 88-031A

References:

Last Update: 06/22/2021 Revision Reference: TX020.02