

Safety Summary Sheet

5-Ethylidene-2-norbornene (CAS NO. 16219-75-3)

5-Ethylidene-2-norbornene (CAS NO.: 16219-75-3)		SPECIES	PROTOCOL	RESULTS
PHYSICAL-CHEMICAL				
2.1	Melting Point		Unknown	<-80°C
2.2	Boiling Point		Unknown	147.6°C (1013hPa)
2.3	Density		Unknown	Relative density : 0.896 (20°C)
2.4	Vapour Pressure		Unknown	5.6hPa (20°C)
2.5	Partition Coefficient (log Kow)		OECD TG 107	3.82 (25°C)
2.6.1A	Water Solubility		OECD TG 105	80mg/L (25°C)
2.6.1.B	Dissociation Constant (pKa)			No data (no dissociable groups)
ENVIRONMENTAL FATE AND PATHWAY				
3.1.1	Photodegradation		Calculation by AOPWIN v1.89	Rate constant of degradation by OH radical : $1.48 \times 10^{-10} \text{cm}^3/(\text{molec} \cdot \text{s})$
3.1.2	Stability in Water		OECD TG 111	Stable at pH 4, 7 and 9 (50°C)
3.1.3	Stability in Soil			No data
3.2	Monitoring Data			No data
3.3.1	Transport between Environmental Compartments		Calculation by Mackey Level I Fugacity model	Air : 96.0% Water : 0.6% Soil : 3.3% Sediment : <0.1% Suspended sediment : <0.1%
3.3.2	Distribution (Koc etc.)		Calculation by EPIWIN	LogKoc : 2.96-3.01
3.4	Biodegradation		OECD TG 301C	0% (28d, BOD) 1% (28d, GC)
3.5	BOD-5, COD or BOD-5/ COD ratio			No data
3.6	Bioaccumulation	<i>Cyprinus carpio</i>	OECD TG 305C	BCF : 70-160 (0.1mg/L), 61-159 (0.01mg/L)
ECOTOXICOLOGY				
4.1	Acute Toxicity to Fish	<i>Brachydanio rerio</i>	OECD TG 203; Annex to Dir. 92/69/EEC (1992): Part C.1; USEPA (1996) 712-C-96-118; USEPA(1996) 712-C-96-118:O PPTS 850.1075	LC50(96h) : 7.6mg/L (semistatic)
		<i>Oryzias latipes</i>	OECD TG 203	LC50(96h) : 7mg/L (semistatic)
4.2	Acute Toxicity to Aquatic	<i>Daphnia magna</i>	OECD TG 202	EC50(48h) : 3.34mg/L

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	Invertebrates (Daphnia etc.)	<i>Daphnia magna</i>	OECD TG 202	EC50(48h) : 7.3mg/L
4.3	Toxicity to Aquatic Plants (Algae etc.)	<i>Selenastrum capricornutum</i>	OECD TG 201; Annex to Dir. 92/69/EEC (1992): Part C.3; USEPA (1996) 712-C-96-164	EC50(96h, biomass) : 3.68mg/L, NOEC(96h, biomass) : <1.20mg/L EC50(96h, growth rate) : 8.93mg/L, NOEC(96h, growth rate) : <1.20mg/L
		<i>Selenastrum capricornutum</i>	OECD TG 201	EC50(72h, biomass) : 2.61mg/L NOEC(72h, biomass) : 0.852mg/L
4.4	Toxicity to Microorganisms (Activated Sludge Respiration Inhibition test etc.)			No data
4.5.1	Chronic Toxicity to Fish			No data
4.5.2	Chronic Toxicity to Aquatic Invertebrates	<i>Daphnia magna</i>	OECD TG 211	LC50(21d) : >2.57mg/L EC50(21d, reproduction rate) : 2.41mg/L NOEC(21d, reproduction rate) : 1.51mg/L
4.6	Toxicity to Terrestrial Organisms			No data
4.6.1	Toxicity to Sediment Dwelling Organisms			No data
TOXICOLOGY				
5.1	Toxicokinetics, Metabolism and Distribution			No data
5.2	Acute Toxicity			
A.	Acute Oral Toxicity	Rat	Unknown	LD50 : male ; 2276 mg/kg female ; 5071 mg/kg
B.	Acute Inhalation Toxicity	Rat	Unknown	LC50 : male ; 2717 ppm female ; 3015 ppm
C.	Acute Dermal Toxicity	Rabbit	Unknown	LD50 : >7168 mg/kg
D.	Acute Toxicity, Other Routes	Rabbit	Unknown (i.v.)	LD50 : male ; 80.6 mg/kg female ; 98.6 mg/kg
5.3	Irritation/Corrosion			
A.	Skin Irritation/Corrosion	Rabbit	Unknown	Slightly irritating
B.	Eye Irritation/Corrosion	Rabbit	Unknown	Slightly irritating
5.4	Skin Sensitization			No data
5.5	Repeated Dose Toxicity	Rat	Unknown (inhalation, 14 weeks)	NOAEL : 4.9 ppm

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		Rat	OECD TG 407 (oral gavage, 28 days)	NOAEL : male ; <4 mg/kg/day female ; 20 mg/kg/day
5.6	Genetic Toxicity in vitro			
A.	Gene Mutation (Bacterial Test etc.)	<i>S. typhimurium</i> and <i>E. coli</i>	OECD TG 471 and 472	Negative
B.	Chromosomal Aberration	CHL/IU	OECD TG 473	Negative
5.7	Genetic Toxicity in vivo	Rat	Unknown (inhalation, Dominant lethal assay)	Negative
5.8	Carcinogenicity			No data
5.9	Toxicity to Reproduction			
A.	Toxicity to Fertility	Rat	OECD TG 421 (oral gavage)	NOAEL : Parental and pups ; 20 mg/kg Reproductive ; 20 mg/kg
B.	Developmental Toxicity/Teratogenicity	Rat	Unknown (inhalation, exposure period ; 6-15 gestation days)	NOAEL : Mmaternal and Developmental ; 25 ppm Not teratogenic
5.10	Other relevant information	CHO-K1-BH4	Unknown (SCE assay)	Negative
5.11	Experience with Human Exposure			No data

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