Safety Summary Sheet

Silicic acid, aluminum sodium salt（CAS NO. 1344-00-9）

Silicic acid, aluminum sodium salt （CAS NO.: 1344-00-9）		**SPECIES**	**PROTOCOL**	**RESULTS**
PHYSICAL-CHEMICAL				
2.1	Melting Point		Unknown (analogically-based)	ca. 1700 ℃*1
2.2	Boiling Point			Not relevant
2.3	Density		DIN/ISO 787/11 DIN/ISO 787/11	Density : ca. 2.1 g/cm^3 (20 ℃) Bulk density : 220 – 300 kg/m^3
2.4	Vapour Pressure		Unknown	Not vaporized (20 ℃)
2.5	Partition Coefficient (log Kow)			Not relevant (due to inorganic compound)
2.6.1A	Water Solubility		Directive 92/69/EEC, A.6	ca. 70 – 80 mg/l (20 ℃)
2.6.1.B	Dissociation Constant（pKa）			No data
ENVIRONMENTAL FATE AND PATHWAY				
3.1.1	Photodegradation		Unknown	Stable (no degradation)
3.1.2	Stability in Water		Unknown	Stable (no degradation, ion exchange possible)
3.1.3	Stability in Soil		Unknown	Stable (ion exchange possible)
3.2	Monitoring Data			No data
3.3.1	Transport between Environmental Compartments			Expected to be distributed mainly into solids/sediments
3.3.2	Distribution （Koc etc.）			No data
3.4	Biodegradation			Not relevant (due to inorganic compound)
3.5	BOD-5, COD or BOD-5／COD ratio			See 3.4
3.6	Bioaccumulation			Bioaccumulation of silicates can be disregarded. But silica can be actively accumulated by terrestrial plants and some marine organisms
ECOTOXICOLOGY				
4.1	Acute Toxicity to Fish	*Brachydanio rerio*	OECD TG 203	LC_0(96 h) : 10000 mg/l (static, limit test)*2
4.2	Acute Toxicity to Aquatic Invertebrates (Daphnia etc.)	*Daphnia magna*	Unknown (analogically-based)	EC_{50}(24 h) : >10000 mg/l*1*2
4.3	Toxicity to Aquatic Plants (Algae etc.)	*Scenedesmus subspicatus*	OECD TG 201	NOEC(72 h) : 10000 mg/l*2
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			No data

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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	Rat	Unknown (oral gavage, absorption and excretion)	After being decomposed in the gastro-intestinal tract, silicon was slightly absorbed and excreted into urine
5.2	Acute Toxicity			
A.	Acute Oral Toxicity	Rat	Unknown	LD_{50} : > 5000 mg/kg
B.	Acute Inhalation Toxicity			No data
C.	Acute Dermal Toxicity	Rabbit	Unknown	LD_{50} : > 5000 mg/kg
D.	Acute Toxicity, Other Routes			No data
5.3	Irritation/Corrosion			
A.	Skin Irritation/Corrosion	Rabbit	Patch test Fed. Hazardous Substances Act, Section 101.11	Not irritating
B.	Eye Irritation/Corrosion	Rabbit	Fed. Hazardous Substances Act 1973	Not irritating
5.4	Skin Sensitization			No data
5.5	Repeated Dose Toxicity			No data*3
5.6	Genetic Toxicity in vitro			
A.	Gene Mutation (Bacterial Test etc.)	*S. typhimurium*	Unknown （NTP study）	Negative
B.	Chromosomal Aberration			No data
5.7	Genetic Toxicity in vivo	Rat	Unknown (oral gavage, Chromosomal aberration)	Negative
		Rat	Unknown (oral gavage, Dominant lethal assay)	Negative
5.8	Carcinogenicity	Rat	Unknown (single intra-pleural injection, maximally 3 years observation)	Not carcinogenic
5.9	Toxicity to Reproduction			
A.	Toxicity to Fertility			No data*4
B.	Developmental	Rat	Unknown (oral gavage,	NOAEL : Maternal & developmental ;

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	Toxicity/Teratogenicity		exposed during 6-15 gestation days (organogenesis period))	1600 mg/kg/day Not teratogenic
		Rabbit	Unknown (oral gavage, exposed during 6-18 gestation days (organogenesis period))	NOAEL : Maternal & developmental ; 1600 mg/kg/day Not teratogenic
5.10	Other relevant information			No data
5.11	Experience with Human Exposure			No data

*1 : Based on analogy with similar substances (e.g. silica)
*2 : Greater than the solubility in water.
*3 : An effects profile similar to that of synthetic amorphous silica (SAS) is supposed, based on the assumption that the particle size and morphology rather than particle composition is the determinant of inflammatory response in the lung (OECD SIAR). For SAS, NOAEC of 1 mg/m^3 is derived in rats 13 weeks sub-chronic inhalation study.
*4 : Based on structure analogy with SAS, no impairment of fertility/reproductive performance is expected to occur (OECD SIAR).

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