

Aluminium silicate

Toxicological Data on the Unburnt Ingredient

[+ve, positive; -ve, negative; ?, equivocal

with, with metabolic activation; without, without metabolic activation]

In vivo

Species	Test conditions	Endpoint	Results	Reference
Mouse strain C57BL/6	A single intraperitoneal injection of 50 mg/kg bw of natural zeolite (crystalline aluminosilicate) particles (<10 µm in length). Leukocytes (obtained from the peritoneal fluid) and bone marrow cells collected 1, 2, 7 and 28 days later and examined for chromosome aberrations.	Chromosome damage	+ve	Durnev et al., 1993
Male albino rats (15/group)	Animals were given up 5000 mg/kg bw/day of sodium aluminium silicate by stomach tube, singly or for five consecutive days. Bone marrow cells were collected 6, 24 and 48 hr after dosing for the evaluation of chromosome aberrations.	Chromosome damage	-ve	Litton Bionetics Inc., 1974
Male albino rats (10/group)	A dominant lethal assay with “sodium silicoaluminate”. Males were given up to 5000 mg/kg bw/day by stomach tube, singly or for five consecutive days. They were then	Dominant lethal mutations	-ve	Litton Bionetics Inc., 1974

	mated with untreated females. Pregnant females subsequently sacrificed in order to evaluate effects on germ cells.			
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In vitro

Test system	Test conditions	Endpoint	Activation status	Results	Reference
Human peripheral blood lymphocytes	Natural zeolite particles (<10 µm in length) tested at 0.05 mg/ml. Cells examined for chromosome aberrations.	Chromosome damage	Without	+ve	Durnev et al., 1993
<i>Salmonella typhimurium</i> TA98, TA100, TA1535, TA1537	Ames test with up to 4 mg sodium aluminium silicate/plate	Mutation	With and without rat and hamster liver S9	-ve	Zeiger et al., 1987
<i>Salmonella typhimurium</i> TA98, TA100, TA1535, TA1537	Ames test with up to 10 mg sodium aluminium silicate/plate	Mutation	With and without rat and hamster liver S9	-ve	NTP, 1981
<i>Salmonella typhimurium</i> TA98, TA100, TA1535, TA1537, TA1538, and <i>Escherichia coli</i> , strain WP2.	Sodium aluminium silicate tested at up to 10 mg/plate.	Mutation	With and without S9	-ve [A good quality test]	Prival et al., 1991
<i>Salmonella typhimurium</i> TA 1530 and G 46, and <i>Saccharomyces cerevisiae</i>	Host mediated assay with sodium silicoaluminate. Male ICR rats (10/group) were given single or repeated (for five consecutive days) doses of 5 g/kg	Mutation	Not applicable	-ve	Litton Bionetics Inc., 1974

	bw/day by stomach tube, together with intraperitoneal injections of the bacteria and yeast. The indicator organisms were collected from the peritoneal cavity 2 hr after treatment and the number of mutants counted.				
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