

(G. H. 1900)

Biological data

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and 1.0 appear mostly effective. They are also reported to have been used as molluscicide agents and as control of the tin snail (Kojima et al., 1961). No toxic effects have been reported.

Compound	Animal	Route	LD ₅₀ mg/kg bodyweight	Reference
Sodium stannate	mouse	oral	2 700	Ministry of Health and Welfare, Japan, 1959

Human data

Chronic inhalation exposure to tin dust or fumes causes benign pneumoconiosis (Jendryas and Kojima, 1968). No acute oral deposits in the lung with little absorption owing to insolubility (Gronowicz, 1969).

Poisoning incidents have been reported from Japan from tin contained in tinned tea or juice. Values lay between 85 - 218 ppm. At Okayama, 7 persons out of 9 were poisoned in 1969. In Tokyo, 1 case was reported in 1969 following an intake of 247 ppm (Kojima, 1969). Another incident has been reported previously in 15 Japanese students from canned orange juice with another 81 cases elsewhere. The symptoms reported were vomiting, diarrhoea, fatigue and headache. The tinned products showed a range of tin content from 73 to 539 (Ministry of Health and Welfare, Japan, 1969).

Long-term studies

Rat

A group of 13 male and 17 female rats were fed on a diet containing 2% chlorostannate for over one year. 16 males and 17 females acted as controls. Mammary adenocarcinoma, one uterine sarcoma and one adenocarcinoma near the jaw occurred in the test group. The difference in tumour incidence was probably not significant (Roe et al., 1965).

Mouse

Groups of mice received over several generations in their drinking water sodium chlorostannate either at 1 000 or 5 000 ppm Sn or stannous oleate in their diet at 5 000 ppm. No adverse effect were noted nor was there any difference in tumour incidence between test and control groups (Walters and Roe, 1965).

STANNOUS CHLORIDE

Acute toxicity

Animal	Route	LD ₅₀ mg/kg bodyweight	Reference
mouse	oral	1 200	Calvery, 1942
rat	oral	700	Calvery, 1942
Rabbit	oral	10 000	Eckardt, 1909

They are made daily in the liver, the kidneys and the lungs. A diet of 20% fish, 10% meat and 10% vegetables, supplemented by vitamins, results in normal growth with little or no accumulation of tin in the body. No interference with compound growth is observed (Willis, 1968).

Short-term studies

Guinea Pig

Groups of guinea pigs received additional 770 mg Sn/kg bodyweight in their diet for 7 weeks without observing any abnormalities. At autopsy no accumulation of tin was found (FDA, 1955).

Cat

Groups of cats received in their diet fish containing additional 210 mg Sn/kg for 7 weeks. No abnormalities were observed and at autopsy no tin accumulation was detected (FDA, 1955).

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