



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES
SPECIFICATIONS FOR IDENTITY AND PURITY OF FOOD
ADDITIVES AND THEIR TECHNOLOGICAL APPLICATION:
SOME EXPLANATION OF TERMS AND OTHER USEFUL NOTES

AND

GENERAL CONSIDERATIONS ON ADDITIVES IN BABY FOOD

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ETHYLALCOHOL

by

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Biological Data

Biochemical aspects

This ester is probably absorbed with ease from the gastro-intestinal tract and is soluble in plasma. It is hydrolysed by liver and plasma esterases and pancreatic lipase to ethylalcohol and acetate (Oppenheimer, 1925; Passett, 1963; Zipf, 1928; Michida, 1957). The ethylalcohol is partly excreted in the expired air and urine, the rest is metabolized, the acetate fraction becoming incorporated in the body pool (Passett, 1963).

Acute toxicity

Animal	Route	LD ₅₀ mg/kg body weight	Reference
rat	oral	5 620	Spector, 1962
guinea pig	s.c.	4 000 (LD)	Flury and Wirth, 1933
cat	s.c.	3 000	Flury and Wirth, 1933

Doses of 13-115 mg fed daily to rats for 5-9 days produced fatty infiltration of the liver (Sillinger, 1950). The vapour is an irritant to eyes and mucosal surfaces and narcosis can occur from inhalation of a high concentration. There is no evidence of cumulation but secondary anaemia, leucocytosis and fatty degeneration of viscera have been described as chronic effects (Browning, 1965; Sax,). The TVL is 400 ppm (Passett, 1963). Exposure to 400-600 ppm for 2-3 hours caused no effects in man (Fatty, 1958).

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Short-term studies

None available except for inhalation studies on guinea pigs exposed to 2,000 ppm for 6 hours per day for 65 days without deleterious effects (Smyth and Smyth, 1928).

Long-term studies

None available.

Special studies

Ethyl acetate was injected into the yolk of Fertile White Leghorn eggs prior to incubation to study any toxic or teratogenic effect of this substance. Ethyl acetate was used at 0.05 and 0.10 ml per egg was injected. The hatchability was 35 per cent and 15 per cent respectively.

In a second experiment 0, 32.5, 45 and 90 mg per egg of ethyl acetate were injected into the yolk sac of fresh fertile chicken eggs. The hatchabilities were respectively: 35, 50, 35 and 15 per cent (McLaughlin et al., 1963, 1964).

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