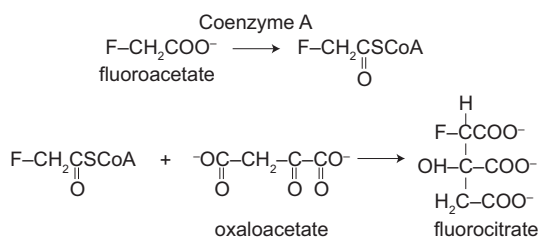


1080

The chemical name for 1080 is sodium monofluoroacetate, $\text{FCH}_2\text{CO}_2\text{Na}$. The trade name 1080 comes from its product number in a laboratory catalogue. It occurs naturally in some plants where it acts as a deterrent against browsing animals and insects. Its effectiveness in killing rats has been known since 1942.

1080 acts by entering the citric acid cycle producing fluorocitrate instead of citrate.



Fluorocitrate interferes with the action of enzymes, particularly acotinase, a critical enzyme in the Krebs cycle, inhibiting the energy production of cells. The end result is that the body's vital organs can no longer function. Herbivores usually die of heart failure, whereas carnivores are more likely to die of respiratory failure.

1080 is toxic to many animals and invertebrates. Dogs, cats and pigs appear to be most susceptible to poisoning. The lethal dose to humans is 2 – 10 mg/kg

Sodium fluoroacetate is readily soluble in water. It does not accumulate in tissues.

New Zealand uses 80 % of world production of 1080. Because New Zealand does not have native animals it is seen as less of a risk to indigenous species than in other countries.

It is seen as the most effective way of controlling possum which defoliate forests and carry bovine tuberculosis, and rats and stoats which attack native birds.

As with the widespread use of any poison there are significant counter-arguments to its use.

Sources of further information

1. http://en.wikipedia.org/wiki/Sodium_fluoroacetate
2. <http://www.1080facts.co.nz>
3. http://en.wikipedia.org/wiki/1080_usage_in_New_Zealand
4. http://en.wikipedia.org/wiki/Sodium_fluoroacetate
5. <http://ban1080.co.nz/1080-facts/>