

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **Canid Bait Ejector 1080 capsules – 3mg FOX**

Recommended Use: **For use with Canid Bait Ejectors for control of foxes**
Distance restrictions apply as per State/Territory government legislation.
Only to be used in accordance with the label and any State/Territory instructions for 1080 products.

Note: This product is only made available to approved purchasers and is not for general use by unqualified persons and must not be made available to unapproved users. This is a restricted chemical substance and must be stored securely.

Supplier Details

Company: Animal Control Technologies (Australia) Pty Ltd
Address: 46-50 Freight Drive Somerton Vic 3062, Australia
Telephone number: 03 9308 9688 (Monday to Friday, 8:00a.m. – 5:00p.m. EST)
Emergency telephone number: Poisons Information Centre 13 11 26 (24 hours)

2. HAZARDS IDENTIFICATION

Hazard classification: Classified as a hazardous substance according to the criteria of the National Occupational Health & Safety Commission (NOHSC).
Not classified as dangerous goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th Edition).

Risk phrase(s): Toxic by inhalation, in contact with skin and if swallowed.

Safety phrase(s): Keep locked up and out of reach of children. Keep away from food, drink and animal feeding stuffs. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible). Avoid release into the environment, refer to product label instructions.

Poisons schedule number: **S7**

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Name:	Common Name:	CAS Number:	Proportion (w/w):
Sodium fluoroacetate	"1080"	62-74-8	3mg/g (0.3%)
Other ingredients not determined to be hazardous		N/A	up to 100%

Total active ingredient content per capsule is 3 milligrams of sodium fluoroacetate ("1080") poison.

4. FIRST AID MEASURES

- First aid:** Speed in treatment is essential. If poisoning occurs, contact a doctor or Poisons Information Centre. Have this MSDS or the label with you.
- Swallowed:** A primary source of poisoning with sodium fluoroacetate is the oral route. Effects may be delayed by several hours. Seek immediate medical assistance. Note that the content of a single capsule is unlikely to cause risk in humans and no immediate or long term symptoms would be expected. Consumption of the contents of multiple capsules would pose a risk to life. Apply artificial respiration if not breathing.
- Eye:** If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor. Sodium Fluoroacetate is water soluble and is readily dispersed with water.
- Skin:** Absorption via intact skin is minimal but if skin contact occurs, remove contaminated clothing and wash skin thoroughly with soap and water. The product contains Rhodamine dye as a marker to indicate contaminated areas. The dye may persist after the sodium fluoroacetate has been washed away and is not of concern.
- Inhaled:** Inhalation risk is minimal with the product which is an aqueous concentrate contained in a plastic capsule.
- Advice to doctor:** The Canid Bait Ejector capsule – 3 mg FOX is designed for use a toxin delivery system when loaded in a spring driven bait station. The purpose is to cause direct delivery of a poison dose, in liquid form, directly into the fox mouth when it tugs hard at the lure on the ejector to trigger the spring release.

Each capsule contains 3mg of sodium fluoroacetate, which is a certain lethal dose for a fox and which also poses a high risk to dogs and cats. Other animals, including humans are less susceptible to this poison so the doses used for canid control are individually unlikely to pose a serious risk to humans. No minimum acceptable dose is set for sodium fluoroacetate in humans. It is important to ascertain the route of exposure and the quantity to which a patient is exposed.

Sodium fluoroacetate is readily absorbed by the oral route and substitutes for normal acetate once it enters mitochondria, where it is initially converted to fluoroacetyl Coenzyme A. This process may take several hours during which clinical signs are absent. Fluoroacetyl CoA substitutes for normal Acetyl Co-A and is readily combined with oxaloacetate to form fluorocitrate for downstream processing by the enzymes of the Tri-Carboxylic-Acid cycle (TCA cycle). However, fluorocitrate, unlike normal citrate, blocks the *aconitase* enzyme and this prevents further processing of the fluoridated citrate. This blockade of *aconitase* also blocks processing of normal citrate in mitochondria, so the production of energy (ATP, NADH) is prevented at all subsequent stages of the TCA cycle. Normal citrate accumulates upstream of the enzyme blockade while the pyruvate pathway continues to function temporarily. Organs with high energy requirements such as the heart, diaphragm and brain are most affected. Accumulation of citrate can cause chelation of extra cellular calcium ions. Disturbances in calcium ion levels can lead to clinical symptoms as nervous function is impeded. Early symptoms may include nausea, vomiting, stomach pains, tingling of the nose, numbness of the face, nervousness. More severe symptoms include tetanic convulsions, laboured breathing, excitability, hallucinations and heart attack. Treat symptomatically and supportively. Monitor for electrolyte abnormalities and metabolic acidosis. While prompt removal of any unabsorbed poison from the gut will reduce risks it is important to seek medical advice as to the risks of causing

vomiting. Consult poisons control for most up to date information. There is no proven antidote for fluoroacetate. Sub-lethal exposures will not block all *aconitase* enzymes and so may result in no symptoms and in this circumstance the fluoroacetate will be defluorinated to harmless excretion products in a short time, so long as biochemical energy supplies are available. Thus, minor exposures in less susceptible species may require no intervention. Sodium fluoroacetate is not readily absorbed through skin and is very water soluble prompt washing in soapy water will minimise risk after accidental skin exposure.

5. FIRE FIGHTING MEASURES

Fire & explosion hazards: The aqueous formulation is not flammable and will not auto-ignite.
Suitable extinguishing media: Not applicable as non combustible
Hazards from combustion: None applicable
Special protective equipment: Respirator, filter A/P

6. ACCIDENTAL RELEASE MEASURES

Spills and Disposal: Sodium fluoroacetate is water soluble. While wearing elbow-length PVC gloves, mop-up excess liquid using absorbent sponge or towel. Triple rinse and bury rinsate and empty containers in a local authority landfill. If no landfill is available, bury the containers below 0.5m in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers should not be burnt. Do NOT re-use containers for any other purpose. Sodium fluoroacetate is readily degraded by common soil bacteria and moulds which do not have metabolic pathways inhibited by fluoroacetate but do have defluorination mechanisms. Wash any contaminated areas with soapy water and bury rinsate from washed areas.

7. HANDLING AND STORAGE

Precautions for safe handling: To avoid risks for users and environment the instructions for use are to be followed. Avoid all contact with the product and wear protective clothing and gloves.

Conditions for safe storage: Safe storage is the responsibility of all persons who are supplied with this poison. The product must be stored in the closed, original container in a dry, cool, well-ventilated area out of direct sunlight. Store in a locked room away from children, animals, food, feedstuffs, seed and fertilisers at all times, except when required for use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National exposure standards: Exposure standards allocated for sodium fluoroacetate powder are 0.05mg/m³ Time weighted average. Short Term Exposure Levels are 0.15mg.m³. Avoid direct contact with skin. However, there is no dust associated with this liquid filled capsule product.

Biological limit values: No biological limit allocated.

Engineering controls: The product formulation dilutes the sodium fluoroacetate to 3mg/mL inside the plastic capsule with each capsule containing a total dose of 3mg. This reduces the risk of handling sodium fluoroacetate powder. However, this product remains extremely poisonous.

The canid bait ejector device is spring loaded and can project the 1mL contents if accidentally triggered. Operators should avoid placing their face in direct line with the ejection path while handling, setting and checking the ejector devices once the spring is primed for triggering.

Personal protective equipment: When opening the container and using the product wear cotton overalls buttoned to the neck and wrists, a washable hat and elbow-length rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red dyed viscous liquid with sweet strawberry odour
Vapour pressure:	Not applicable (not volatile on heating)
Boiling point:	100°C
Solubility in water:	100%
Specific gravity:	1.05g/mL

10. STABILITY AND REACTIVITY

Chemical stability: Stable for extended periods (indefinite) under normal storage and handling conditions at room temperatures.

Incompatible materials: None applicable

Hazardous decomposition products: No specific data

Hazardous reactions: No specific data

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Based on the lowest known lethal dose for humans (0.71 mg/kg bw), an 80 kg person would have to consume approximately 56mg of fluoroacetic acid (more than 15 canid pest ejector capsules 3mg FOX, to receive a potential lethal dose. Lower doses may still cause toxic effects and there is a wide range of susceptibility in species compared to the highly vulnerable canid species which succumb at around 0.1mg/kg dose. There is usually period of latency between poisoning and onset of symptoms of between 30 minutes and 3 hours. Neurological effects include convulsion, respiratory depression, tremulousness, hallucinations and coma. Cardiac effects include hypertension then hypotension, arrhythmias, ventricular fibrillation and cardiac failure.
<i>Acute:</i>	
Swallowed:	Very poisonous if swallowed. Lethal doses can cause cardiac arrest.
Eye:	Avoid contact with eyes. Effects not known.
Skin:	Avoid contact with skin. Studies with rabbits have shown that 1080 is poorly absorbed through the skin.
Inhaled:	Not applicable to this formulation. There is no inhalation or vapour risk with the liquid product under normal circumstances.
<i>Chronic:</i>	Long term exposure at high doses may lead to cardiac and or testicular damage. Studies into the effects of chronic (90 day) exposure in rats have found damage to the heart and in males the testis, at a dose of 0.25mg/kg/day. Though some of this damage may be reversible over time when exposure is removed.

12. ECOLOGICAL INFORMATION

Do not contaminate streams, rivers or waterways with the chemical or used containers. Information on non-target animal distribution, conservation status, habitat preference, diet, tolerance to 1080, body weight and size of home range can be used to reduce poisoning risks posed by baiting programs. Time baiting programs when non-target species are least active or least susceptible. Follow approved label directions to minimise risks to non-target animals.

Eco toxicity:	Sodium fluoroacetate is toxic to fish but is rapidly diluted in water. Sodium fluoroacetate is readily degraded by common soil bacteria and moulds once baits become wet in soil.
Persistence and degradability:	The product is biologically degradable and will not accumulate in soil or water. The contents remain stable while contained within the plastic capsule.

13. DISPOSAL CONSIDERATIONS

Triple rinse and bury rinsate and empty capsules in a local authority landfill. If no landfill is available, bury the containers below 0.5m in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers are made of plastic and should not be burnt. Do NOT re-use containers for any other purpose.

14. TRANSPORT INFORMATION

This product is not classified as a dangerous good according to the Australian Dangerous Goods Code 6th Edn. (1998).

UN number:	Not applicable	UN proper shipping name:	Not applicable
Dangerous Goods Class:	Not applicable	Subsidiary Risk:	Not applicable
Packing group:	Not applicable	Hazchem code:	Not applicable

15. REGULATORY INFORMATION

Poisons schedule number: **S7**

16. OTHER INFORMATION

Date of Preparation of this MSDS: 24th July 2014

This Material Safety Data Sheet (MSDS) has been developed using the following references:

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edn. [NOHSC:2011(2003)]

Australian Dangerous Goods Code 7th Edn. (2011)

World Health Organisation (2006) WHO-UNEP Sound management of pesticides and diagnosis and treatment of pesticide poisoning.

Bruère, A.N., Cooper, B.S. and Dillon, E.A. (1990) *Veterinary Clinical Toxicology*, Continuing Education, Palmerston North, New Zealand.

Eason, C. and Turck, P. (2002) A 90-day Toxicological evaluation of compound 1080 (Sodium Monofluoroacetate) in Sprague-Dawley rats, *Toxicological Sciences*, vol. 69, pp. 439-447.

The physical values and properties described in this MSDS are typical values based on scientific literature and material produced to date, and are believed to be reliable. Animal Control Technologies provides no warranties; either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. The information is supplied upon the condition that the persons receiving information will make their own determination as to the suitability for their purposes prior to use of this product. Due care should be taken to ensure that the use of this product and its disposal is in compliance with all relevant Federal, State and Local Government regulations.

End of MSDS