



ANIMAL CONTROL TECHNOLOGIES (AUSTRALIA) PTY LTD

Excellence in Pest Animal Management Technologies

DEN-CO-FUME®

Carbon monoxide fumigant cartridge

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

PRODUCT NAME:	DEN-CO-FUME® Carbon monoxide fumigant cartridge
RECOMMENDED USE:	For the control of foxes in natal dens DO NOT use in dens which have evidence of occupancy of non-target animals or that lack evidence of occupancy of foxes. DO NOT use where there is a risk of igniting any combustible materials, including grass, haystacks or buildings. DO NOT use where there is a risk of direct exposure to <i>any</i> animal to the combusting products (flame).
SUPPLIER DETAILS:	
COMPANY:	Animal Control Technologies (Australia) Pty Ltd
ADDRESS:	46 – 50 Freight Drive, Somerton, VIC 3062, AUSTRALIA
TELEPHONE NUMBER:	+61 3 9308 9688 (Mon – Fri, 8.00 – 17.00)
EMERGENCY CONTACT NUMBER:	Poisons Information Centre 13 11 26 (24 hours)

2. HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION:	DANGEROUS GOODS. NON-HAZARDOUS SUBSTANCE Classified as dangerous goods according to the criteria of the Australian Dangerous Goods Code. Not classified as a hazardous substance according to the criteria of NOHSC.
RISK PHRASE(S):	None
SAFETY PHRASE(S):	None
POISONS SCHEDULE NUMBER:	Not allocated

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL NAME:	CAS NUMBER:	PROPORTION % (w/w)
Sodium nitrate	7631-99-4	53%
Carbon (charcoal)	7440-44-0	28%
Other ingredients determined not to be hazardous		19%

4. FIRST AID MEASURES

Upon ignition, cartridges produce the toxic gas, carbon monoxide. Carbon monoxide is a highly poisonous, odourless and tasteless gas. Fumes may be harmful if inhaled. Inhalation overexposure can cause headaches, nausea, dizziness, weakness, unconsciousness and death.

FIRST AID: If poisoning occurs with carbon monoxide occurs, immediately move person to fresh air, IF SAFE TO DO SO. Contact a doctor of Poisons Information Centre. Have this MSDS or the product label with you.

ADVICE TO DOCTOR: Give oxygen by mask until the blood carboxyhaemoglobin is reduced below the dangerous level. If respiration is depressed, give artificial respiration with oxygen until respiration is normal.

SWALLOWED: Seek medical attention.

EYE: Flush thoroughly with copious amounts of running water. If symptoms persist, seek medical attention.

SKIN: Remove contaminated clothing. Wash skin thoroughly with soap and water.

INHALED: If headache or drowsiness occurs transfer victim from contaminated area to fresh air and give oxygen if available. If unconscious, give artificial respiration and get to a hospital or doctor quickly.

5. FIRE FIGHTING MEASURES

FIRE & EXPLOSION HAZARDS: Designed to burn once ignited, producing a flame and burning vigorously, though cartridges are unlikely to explode.

SUITABLE EXTINGUISHING MEDIA: Extinguish by covering with water, foam, dry chemical or soil to exclude air.

HAZARDS FROM COMBUSTION: Carbon monoxide gas

SPECIAL PROTECTIVE EQUIPMENT: Wear self-contained breathing apparatus when operating in confined spaces.

6. ACCIDENTAL RELEASE MEASURES

SPILLS AND DISPOSAL: Pick up spilled cartridge contents and place back into original container. Soak in water, crush and dispose of in approved landfill or bury below 0.5 metres of loose soil.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:	The fuse can be ignited by a sharp blow or friction, thus storage and handling should protect against contact with ignition causing factors. Keep fire away and do not allow smoking in the presence of the fuse. DO NOT cut or tamper with the fuse.
CONDITIONS FOR SAFE STORAGE:	Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

NATIONAL EXPOSURE STANDARDS:	Carbon monoxide time Weighted Average (TWA): 30ppm (34 mg/m ³)
BIOLOGICAL LIMIT VALUES:	No biological limit allocated.
ENGINEERING CONTROLS:	Use only in a well ventilated area. Cartridges should only be ignited either once inside a fox den, or once inside a fumigator combustion box. DO NOT handle cartridges once ignited.
PERSONAL PROTECTIVE EQUIPMENT:	Wear protective glasses. Wear protective gloves or keep hands well away from ignited cartridge or fuse. Respiratory protective equipment is not necessary when fumigation is conducted in the open air. It is <i>essential</i> to have adequate fresh air available to operators during use of cartridges.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Cardboard tube filled with approximately 240g of grey coloured, hard –compacted granular material and fitted with cardboard end caps. A fuse, 50cm long, is inserted in one end of the cartridge.
ODOUR:	Practically odourless
VAPOUR PRESSURE:	Not applicable
VAPOUR DENSITY:	Not applicable
BOILING POINT / RANGE:	Not applicable
FLAMMABILITY:	Combustible
SOLUBILITY IN WATER:	Negligible
FLASHPOINT:	No data
FLAMMABLE LIMIT:	No data

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:	Stable under normal storage and handling conditions
CONDITIONS TO AVOID:	Heat
INCOMPATIBLE MATERIALS:	Oxidising agents
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxides
HAZARDOUS REACTIONS:	No specific data

11. TOXICOLOGICAL INFORMATION

- ACUTE:** Contents of un-combusted cartridge has very low acute oral toxicity ($LD_{50} > 3,000$ mg/kg body weight in rats).
Burns and exposure to carbon monoxide gas are the potential health hazards.
Carbon monoxide gas is very toxic. The absorption and resulting symptoms are dependent on the concentration of carbon monoxide in the inspired air, the time of exposure and the state of activity of the person exposed. Effects may be rapid if exposed to high concentrations of carbon monoxide. Concentrations over 1,000 ppm (1%) cause unconsciousness, respiratory failure and death. Exposure to carbon monoxide will cause conversion of haemoglobin to carboxyhaemoglobin which is less able to carry oxygen to tissues.
- CHRONIC:** This product is designed to produce carbon monoxide once ignited. Exposure to the product once ignited in a confined space may lead to carbon monoxide poisoning.
Severe anoxia from sub-lethal carbon monoxide absorption may cause central nervous damage. Carbon monoxide does not accumulate in the body between episodes of acute exposure.

12. ECOLOGICAL INFORMATION

- PERSISTENCE & DEGRADABILITY:** The product is biologically degradable and will not accumulate in soil or water.

13. DISPOSAL CONSIDERATIONS

Soak in water, crush and dispose of in approved landfill or bury below 0.5 metres of loose soil.

14. TRANSPORT INFORMATION

This product is classified as a Dangerous Good according to the Australian Dangerous Goods Code 6th Edition (1998).

- UN NUMBER:** 0431
UN PROPER SHIPPING NAME: ARTICLES, PYROTECHNIC for technical purposes
DANGEROUS GOOD CLASS: 1.4G
SUBSIDIARY RISK: Not applicable
HAZCHEM CODE: 1[Z]

15. REGULATORY INFORMATION

POISONS SCHEDULE: Not allocated

16. OTHER INFORMATION

DATE OF PREPARATION OF THIS MSDS: 22nd February 2011

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

- I. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edn. [NOHSC:2011(2003)]
- II. Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)]
- III. NOHSC Exposure Standards for Atmospheric Contaminants in the Occupational Environment: Guidance Note [NOHSC: 3008(1995)] and National Exposure Standard [NOHSC: 1003(1995)]
- IV. Australian Dangerous Goods Code 7th Edn. (2007)
- V. Large Gas Cartridge MSDS, EPA Registration No. 56228-21 issued by the US Department of Agriculture, Animal and Plant health Inspection Service. Revised 9th February 2004.

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 (Australia) Pty Ltd 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 of this product for their purposes prior to use of the product. Due care should be taken to ensure the use of this product and its disposal is in compliance with all relevant Federal, State and Local Government regulations.

END OF MSDS