



Safety Data Sheet

DEN-CO-FUME® CARBON MONOXIDE
FUMIGANT CARTRIDGE

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	DEN-CO-FUME® CARBON MONOXIDE FUMIGANT CARTRIDGE
Other means of identification:	
Recommended use of the chemical and restrictions on use:	For the control of foxes. 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 any animal to the combusting products (flame).
Supplier:	Animal Control Technologies (Australia) Pty Ltd
ABN:	25 137 868 449
Street Address:	46-50 Freight Drive Somerton Vic 3062, Australia
Telephone No:	+61 3 9308 9688 (Monday to Friday, 8:00a.m. – 5:00p.m. EST)
Fax:	+61 3 9308 9622
Email:	enquiries@animalcontrol.com.au
Distributed by:	Animal Control Technologies (Australia) Pty Ltd 46-50 Freight Drive Somerton Vic 3062, Australia
Emergency Telephone:	Poisons Information Centre 13 11 26 (24 hours)

2. HAZARDS IDENTIFICATION

Classification of the substance mixture: Classified as Dangerous Goods according to the Australian Code for the Transport of Explosives by Road and Rail (3rd edition) and the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition).

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

Classification of the substance or mixture:

Explosive - Division 1.4

Eye Irritation - Category 2

SIGNAL WORD: WARNING



Hazard Statement(s):

H204 – Fire or projection hazard

H319 – Causes serious eye irritation

Precautionary Statement(s):

Prevention:

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.



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P234 – Keep only in original packaging.
P250 - Do not subject to grinding/shock/friction
P264 – Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response:

P370 + P372 + P380 + P373 – In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.
P305+ P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+ P313 – If eye irritation persists: Get medical advice/attention.

Storage:

P401 – Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight in accordance local/regional/national/international Regulations. Keep away from sources of ignition and heat.

Disposal:

P503 – Dispose of container by soaking in water, crush and dispose of in approved landfill or bury below 0.5 metres of loose soil, in accordance with local/regional/national/international Regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion (w/w)
Sodium nitrate	7631-99-4	65%
Other components are not considered hazardous in this formulation and therefore are not required to be disclosed according to the WHS Regulations.		

4. FIRST AID MEASURES

Speed in treatment is essential. If poisoning with carbon monoxide occurs, contact a Poisons Information Centre. Phone Australia 131126; New Zealand 0800 764 766 or a doctor. Have this SDS or the label with you.

Inhalation: There is no inhalation risk with the product.
Skin Contact: 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.
Eye Contact: If skin contact occurs, remove contaminated clothing and wash skin thoroughly with soap and water. Take care to thoroughly cleanse area including fingernails and scalp (if applicable).
Ingestion: Flush thoroughly with copious amounts of running water. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First Aid Facilities: If poisoning occurs seek medical attention.
Indication of immediate medical attention and special treatment needed: Upon ignition, cartridges produce smoke containing high quantities (>50%) 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.

If poisoning with carbon monoxide occurs, immediately move person to fresh air, IF SAFE TO DO SO.



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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Extinguish by covering with water, foam, dry chemical or soil to cool and exclude air.
Specific hazards arising from the substance or mixture:	Designed to burn once ignited, producing a flame and burning vigorously, though cartridges are unlikely to explode. Hazards from combustion include carbon monoxide gas.
Special protective equipment and precautions for fire-fighters:	On burning will emit toxic carbon monoxide gas. Wear self-contained breathing apparatus when operating in confined spaces.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/ Environmental precautions:	Shut off all possible sources of ignition is safe to do so. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.
Personal precautions/ Protective equipment:	Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and inhalation of carbon monoxide gas. Work up wind or increase ventilation.
Methods and materials for containment and cleaning up:	Contain - prevent run off into drains and waterways. Collect the spilled cartridge contents. Soak the empty cartridge in water, crush and dispose of in approved landfill or bury below 0.5 metres in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Wash any contaminated areas with soapy water and bury rinsate from washed areas.

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. Transport and store upright. Keep out of reach of children. Do not eat, drink or smoke in contaminated areas. Always remove contaminated clothing and wash hands before eating, drinking, smoking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.
Conditions for safe storage, including any incompatibilities:	Store in the closed, original container in a dry, cool, well ventilated area out of direct sunlight. Store away from sources of heat or ignition. Store away from foodstuffs. Store away from incompatible materials described in Section 10.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:	No value assigned for this specific material by Safe Work Australia. However, there are exposure standards for the carbon monoxide gas produced. The Exposure Standard for Carbon Monoxide: TWA = 30 ppm; 34 mg/m ³ STEL 15 min exposure = 200ppm, never exceeding 400ppm. As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.
Appropriate engineering controls:	Use only in a well-ventilated area outdoors and do not breathe smoke generated by the cartridge on combustion. Cartridges should only be ignited either once inside a fox den, or once inside a fumigator combustion chamber designed for this purpose. DO NOT handle cartridges once ignited as residues are extremely hot.



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Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Observe good standards of hygiene and cleanliness. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

Respiratory Protection: Respiratory protective equipment is not necessary when fumigation is conducted in the open air however if ventilation is not adequate then a respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. It is essential to have adequate fresh air available to operators during use of cartridges.

Eye and Face protection: Wear protective glasses. Face protection is not needed under normal and intended conditions of product use. However, if protection is required consult AS/NZS 1336 and AS/NZS 1337 for further information.

Skin Protection: The un-combusted cartridge is not considered a skin irritant however as a general precaution PVC or nitrile rubber gloves may be worn as a general precaution. Always check with the glove manufacturer or your personal protective equipment supplier regarding the correct type of glove to use. Consult AS/NZS 2161 for further information. Keep hands well away from ignited cartridge or fuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	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.
Colour:	Not applicable.
Odour:	Practically odourless.
pH:	Not applicable
Bulk Density	No data available for formulation
Melting Point/Freezing Point:	Not applicable
Boiling Point/range:	Not applicable
Flash Point:	No data available for formulation
Flammability	Combustible and burn with high energy for about 3 minutes.
Evaporation Point:	No data available for formulation
Vapour Pressure:	Not applicable
Vapour Density:	Not applicable
Solubility:	Negligible
Partition coefficient: n- octanol/water	No data available for formulation
Auto-ignition Temperature:	No data available for formulation
Decomposition Temperature:	No data available for formulation
Viscosity:	Not relevant

10. STABILITY AND REACTIVITY

Reactivity:	Non-reactive under normal conditions. However, upon ignition will product toxic carbon monoxide gas.
Chemical stability:	Stable under normal ambient and anticipated dry storage and handling conditions of temperature and pressure.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur. However, upon ignition will product toxic carbon monoxide gas.
Conditions to avoid:	Heat, sources of ignition, and open flame.
Incompatible materials:	Oxidising agents.
Hazardous decomposition products:	Carbon monoxide.



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11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Contents of un-combusted cartridge has very low acute oral toxicity (LD50 > 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.
Ingestion:	Available information indicates that it is not considered a risk from oral exposures.
Inhalation:	Available information indicates that it is not considered an inhalation risk for the un-combusted cartridge. However, 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.
Skin:	Available information indicates the un-combusted cartridge is not considered a skin irritant.
Eye:	Causes serious eye irritation.
Respiratory or skin sensitisation:	Available information indicates that the un-combusted cartridge is not considered a skin sensitiser and not expected to be a respiratory sensitiser.
Germ cell mutagenicity:	Available information indicates that the un-combusted cartridge is not suspected of causing genetic defects.
Carcinogenicity:	Available information indicates that the un-combusted cartridge is not considered to be a carcinogen.
Reproductive toxicity:	Available information indicates that the un-combusted cartridge is not considered to be toxic to reproduction.
STOT-single exposure:	Available information indicates that the un-combusted cartridge is not expected to cause toxicity to a specific target organ.
STOT-repeated exposure:	Available information indicates that the un-combusted cartridge is not expected to cause toxicity to a specific target organ.
Aspiration hazard:	Available information indicates that the un-combusted cartridge is not expected to be an aspiration hazard.
Chronic health effects:	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

Ecotoxicity:	No information available.
Persistence/degradability:	The product is biologically degradable and will not accumulate in soil or water.
Bioaccumulative potential:	There is no risk of accumulation or secondary poisoning from a carbon monoxide affected fox carcass.
Mobility in Soil:	Carbon monoxide is not readily absorbed by soil.

13. DISPOSAL CONSIDERATIONS

Disposal methods:	Refer to Waste Management Authority. Dispose of the used container in accordance with local/regional/national/international regulations. Soak the
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used container in water, crush and dispose of in approved landfill or bury below 0.5 metres of loose soil in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.

14. TRANSPORT INFORMATION

Road and Rail Transport:	Classified as Dangerous Goods by the criteria of the Australian Code for the Transport of Explosives by Road and Rail (3rd edition) and Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; DANGEROUS GOODS
	UN Number: 0431
	Proper Shipping Name or Technical Name: ARTICLES, PYROTECHNIC for technical purposes
	Transport Hazard Class: 1.4G
	Packaging Group: Not assigned.
	Hazchem Code: 1YE
Marine Transport:	Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.
	UN Number: 0431
	Proper Shipping Name or Technical Name: ARTICLES, PYROTECHNIC for technical purposes
	Transport Hazard Class: 1.4G
	Packaging Group: Not assigned.
	IMDG EMS Fire: F - B
	IMDG EMS Spill: S - X
Air Transport:	Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.
	UN Number: 0431
	Proper Shipping Name or Technical Name: ARTICLES, PYROTECHNIC for technical purposes
	Transport Hazard Class: 1.4G
	Packaging Group: Not assigned.

15. REGULATORY INFORMATION

Poison Schedule (SUSMP):	Not allocated
APVMA:	48242
AICS:	All the constituents of this material are either listed on the Australian Inventory of Industrial Chemicals (Inventory), not required due to the nature of the chemical, or have been assessed under the Industrial Chemicals Act 2019 as amended.

16. OTHER INFORMATION

General Information:	None
Issue Number:	003
Issue Date:	02 September 2021
In any event, the review and, if necessary, the re-issue of an SDS shall be no longer than 5 years after the last date of issue.	
Reason(s) for Issue:	Re-issue following expiry
Literary Reference:	None
Key abbreviations or acronyms used:	ADG Code - Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition) AICS - Australian Inventory of Chemical Substances AgVet Code Act 1994 – Agricultural and Veterinary Chemicals Code Act 1994 APVMA – Agricultural Pesticides and Veterinary Medicines Australia



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GHS - Globally Harmonised System of Classification and Labelling of Chemicals (3rd revised edition) 2009

IARC - International Agency for Research on Cancer

LD₅₀ or LC₅₀ – Estimated lethal dose / concentration to kill 50% of the population/sample.

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (December 2016)

STEL - Short term exposure limit means the average airborne concentration of a substance calculated over a 15 minute period. The STEL should not be exceeded at any time during a normal eight hour working day.

STOT – Specific Target Organ Toxicity

SUSMP - Standard for the Uniform Scheduling of Medicines & Poisons

SWA - Safe Work Australia, formerly ASCC and NOHSC

TGA – Therapeutic Goods Australia

WHS – Workplace Health and Safety

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END OF SDS