

Requirements for possession and use of strychnine for wild dog and fox control in Queensland

**Health (Drugs and
Poisons) Regulation
1996**

November 2018

Requirements for possession and use of Strychnine for wild dog and fox control in Queensland

Published by the State of Queensland (Queensland Health), April 2016



This document is licensed under a Creative Commons Attribution 3.0 Australia licence. To view a copy of this licence, visit creativecommons.org/licenses/by/3.0/au

© State of Queensland (Queensland Health) **2016**

You are free to copy, communicate and adapt the work, as long as you attribute the State of Queensland (Queensland Health).

For more information contact:

Health Protection Branch, Department of Health, GPO Box 48, Brisbane QLD 4001, email environmentalhazards@health.qld.gov.au, phone (07) 3328 9310.

An electronic version of this document is available at www.health.qld.gov.au

Disclaimer:

The content presented in this publication is distributed by the Queensland Government as an information source only. The State of Queensland makes no statements, representations or warranties about the accuracy, completeness or reliability of any information contained in this publication. The State of Queensland disclaims all responsibility and liability (including without limitation for liability in negligence) for all expenses, losses, damages and costs you might incur as a result of the information being inaccurate or incomplete in any way, and for any reason reliance was placed on such information.

Contents

1. Purpose.....	1
2. Introduction	1
3. About strychnine	1
4. Use	2
5. Purchase and sale	2
6. Transport.....	2
7. Storage	2
8. Selection of baiting medium	2
9. Personal transport of baits	3
10. Notification to neighbours.....	3
11. Signage.....	3
12. Bait/lethal trap placement restrictions.....	3
13. Bait preparation.....	4
Safety requirements.....	4
Preparation of meat baits	5
Preparation of lethal traps	5
14. Laying of baits.....	5
15. Laying of lethal traps	6
16. Disposal of baits and containers or spills	6
17. Contaminated clothing	6
18. Bait retrieval	6
19. Disposal of waste water	7
20. Surrender of unused quantities of strychnine	7
21. Adverse event reporting	7
Appendix 2	11

1. Purpose

This document specifies requirements for Permit Holders authorised to possess and use strychnine for pest animal control under the Health (Drugs and Poisons) Regulation 1996.

2. Introduction

Strychnine is a highly hazardous substance and is scheduled as a dangerous poison requiring specific controls under the Standard for Uniform Scheduling of Medicines and Poisons (Poisons Standard) under the Therapeutic Goods Act 1989.

In Queensland, the Health (Drugs and Poisons) Regulation 1996 (HDPR) regulates the possession, use and sale of strychnine. Sections 240A, 240B, 241 and 242 impose conditions and restrictions associated with the possession and use of strychnine for pest animal control. The Biosecurity Act 2014 provides the regulatory framework for the management of pest animals and the approvals for landholder to conduct certain activities such as controlling dogs under certain conditions.

The HDPR restricts the possession and use of strychnine to persons who possess an appropriate strychnine permit. The strychnine permit provides the legal permission for landholders to obtain possess and use strychnine for baiting wild dogs and foxes at a specified location for a specified time. Once a permit expires, the legal permission ceases and any remaining strychnine should be surrendered.

This document applies to all strychnine permit holders within Queensland. It is a condition of the Permit that all of the provisions contained within this document are complied with.

3. About strychnine

Strychnine is a plant derived poison from the *Strychnos nux-vomica*, an ever-green tree found in southern Asia (India, Sri Lanka and East Indies) and Australia.

Crystalline strychnine is colourless, odourless and is water soluble. Extreme adverse health effects from exposure (inhalation, ingestion or absorption through eyes or mouth) to very small quantities of poison can occur making it a very effective poison to all who come into contact with it.

Early signs of poisoning occur within 15-30 mins of exposure. Symptoms of poisoning are related to muscle spasms and death results from asphyxia when muscles tire through sheer exhaustion. Recovery from strychnine exposure may be possible if hospital treatment is sought immediately.

4. Use

Strychnine must only be used for the land baiting of wild dogs and foxes. Aerial administration of baits containing strychnine is prohibited.

5. Purchase and sale

Strychnine must be obtained from persons licensed to sell Schedule 7 regulated poisons in Queensland or an authorised interstate retailer. The most common place to obtain the strychnine is from a pharmacist who is authorised to sell this poison.

The current permit must be presented to the licensed retailer at the time of purchase of the strychnine and only the quantity stated on the permit or less can be obtained. Strychnine can be purchased in multiple transactions up to the amount specified by the Permit.

It is an offence for permit holders to resell or give away strychnine or baits/lethal traps prepared with strychnine.

6. Transport

Strychnine powder is a class 6.1 poison under the Dangerous Goods Code and when it is transported, it must be packaged in a leak proof container and stowed in a vehicle so that it cannot:

- escape the vehicle
- come into contact with food, medicines or other poisons
- be accessed by animals or unauthorised persons.

7. Storage

Strychnine powder must be stored only at the location/s specified on the permit and must:

- be under lock and key with the key in possession of the permit holder or an adult authorised by the permit holder
- be in a place where unauthorised persons including children do not have access and
- not be stored in a container that resembles or may be mistaken for, a food container.

8. Selection of baiting medium

Only fresh boneless meat is permitted to be used for strychnine baits. Carcasses or bones are not permitted for use. This is because strychnine residue may persist in the

marrow and bones which are easily transported away from the baiting site and may be accessed by other animals, placing non-target animals at risk.

9. Personal transport of baits

Strychnine baits must be transported in a strong leak proof container which is located in a safe and secure position on the vehicle. This container must not be used for any other purpose.

10. Notification to neighbours

A minimum of 72 hours' notice must be given to every resident and/or occupier of the land whose property boundary adjoins or has frontage to the land whereon poisoned baits or lethal traps are to be laid, advising them of the intention to lay baits or lethal traps. Advising neighbours of the intent to bait can be via a telephone conversation or by issuing a Notice of Intent to use Strychnine (Appendix 1). If contact is made via the telephone or face to face, it is advisable to keep details of the contact, i.e. when the contact was made and details of the person spoken to, in case a complaint is made at a later date.

11. Signage

During baiting or lethal trapping, warning signage must be displayed at the main entrance of the property and at the entrance nearest to the baiting or lethal trap sites. Signs must indicate the type of poison, the date laid or set and the name and telephone number of the owner/manager of the property where bait(s) or lethal trap(s) have been laid. A template for these signs is included in Appendix 2.

12. Bait/lethal trap placement restrictions

Baits/lethal traps must:

- only be used in pre-planted and fallow land, forests, non-agricultural land and pasture situations
- Be prepared in sufficient quantities for immediate use only
- be laid as soon as possible after preparation – do not carry out other jobs beforehand
- only be placed in an area known to be frequented by wild dogs or foxes
- not exceed 5 baits per hectare – fresh meat baits only and
- must not occur within the following minimum distance requirements unless authorised by specific conditions under the permit.

Feature	Minimum Distance
Fence property boundary	5 metres
Declared road (centre line)	50 metres
Any dwelling or habitation or public amenity other than applicant's dwelling	500 metres
Stock route or reserve for travelling stock	Local Government permission required
Drinking water supply	Ensure drinking water supply not contaminated
Water courses (permanent or free flowing)	No prescribed distance. Ensure water course not contaminated

13. Bait preparation

Safety Requirements

The Material Safety Data Sheet (MSDS) contains information on safety and handling, first aid and spills information. All safety and exposure controls contained in the MSDS must be complied with (see Appendix 3). Further, children or animals must not be permitted to enter the bait/cloth preparation area.

Users must:

- Wear proper protective clothing including clean overalls or a long shirt and trousers buttoned at the wrist and neck, impervious boots (rubber) and impervious gloves. Check that there are no holes or cuts in the gloves.
- Wear safety glasses or similar eye protective devices if a full face mask is not used.
- Wash all implements thoroughly with water as soon as bait preparation is finished. Refer to section 19 for disposal advice on waste water.
- Do not wash implements in sink that is used for general use.
- Wash used gloves (inside and out), boots and face mask thoroughly in water and allow to dry. Dispose of waste water as per section 19.
- Wash hands and face after preparation and cleaning.
- Change into clean clothes before eating or drinking.

If poisoning occurs, speed in treatment is essential and hospitalisation is likely to be needed. If poisoning occurs contact a doctor or the Poisons Information Centre immediately on 13 11 26. Other first aid details are contained in the MSDS in Appendix 3.

Preparation of meat baits

The following procedure must be undertaken during the preparation of baits. The permit holder must:

- prepare each bait using approximately a 250g piece of boneless meat
- make a small cut down the centre of the bait with a sharp knife and place 60mg of strychnine in the centre of the bait
- place the strychnine well inside the bait
- close the cut and allow the bait to stand for two hours to enable the cut to partially seal
- prepare sufficient baits for immediate use only.

Preparation of lethal traps

The following procedure must be undertaken during the preparation of lethal traps. The permit holder must:

- only prepare sufficient cloths for immediate use only
- prepare the treated cloth by cutting either cotton or close weave hessian material into strips approximately 50mm wide by 200mm long
- lay a maximum of 100-500mg of strychnine in the long centre of the strip finishing no less than 25mm from each end
- carefully fold the cloth so that the strychnine is retained in the centre
- place the folded cloth in a sealed leak proof container
- must not store prepared cloths.

14. Laying of baits

Strychnine permit holders must:

- only place baits on the property location detailed on the permit
- use gloves and other personal protective equipment such as tongs must be used to avoid contact with poisonous baits
- ensure that the baits are tied or buried to prevent the removal by non-target animals
- avoid smoking or eating during the laying, retrieving or handling baits.

15. Laying of lethal traps

Strychnine permit holders must ensure that lethal traps are:

- only placed at the property location/s detailed on the permit
- handled when appropriate personal protective equipment is in use and smoking and eating are avoided
- used in a manner that prevents the capture of non-target animals
- anchored appropriately depending on the trap construction.

Note: Prior to setting the lethal trap, wrap the folded cloth to one jaw of the trap and secure the cloth at each end of the jaw using soft tie wire or plastic ties to secure it in place. The cloth is secured only to the jaw held by the trap mechanism (trap dog), not the 'free' jaw. Alternatively, a strip of hessian approximately 4-6 cm wide and 20-30 cm long should be wound around the trap jaw, impregnated with a maximum of 100-500mg strychnine and secured to the jaw with wire.

16. Disposal of baits and containers or spills

Disposal of the following must be by deep burial:

- Containers
- Uneaten baits or part thereof
- Treated cloths
- Dead target animals
- Any other contaminated material
- Any non-target animals* (refer to Section 21 - adverse event reporting)
- Any spilt poison or object that has been contaminated as a result of a spill that cannot be thoroughly cleaned.

Containers which have been used for the preparation of strychnine baits must not be used for any other purpose. Disposal site and depth should not compromise water sources.

17. Contaminated clothing

If clothes become contaminated, remove immediately and wash separately before being used.

18. Bait retrieval

Baits must be retrieved after 7 days or when the target animal has been killed.

Destroy any affected animals found.

19. Disposal of waste water

Rinse water from cleaning utensils/bait preparation equipment or PPE must not be disposed in such a way that it endangers the life and safety of a person or animal or contaminates food or water.

20. Unused quantities of strychnine

Once the permit expires, it is illegal to retain any unused strychnine. An application for a further permit can be made or alternatively contact your nearest Public Health Unit for approval and advice on strychnine disposal <https://www.health.qld.gov.au/system-governance/licences/medicines-poisons/poisons-management/default.asp>.

21. Adverse event reporting

Queensland Health must be advised of the following situations:

- any poisoning or suspected poisoning involving a human immediately
- any poisoning or suspected poisoning of a domestic animal within three days
- any potential contamination of agricultural land or livestock immediately.

Reports must be made to your nearest Queensland Health Public Health Unit at <http://www.health.qld.gov.au/cho/default.asp>

Appendix 1 Notice of intent to use strychnine

Date: _____

To: _____

As a neighbouring landholder, I wish to inform you that I intend to:

Prepare and lay strychnine poisoned fresh meat baits for the control of wild dogs or foxes on my property (tick if relevant)

Lay traps poisoned with strychnine for the control of wild dogs or foxes (tick if relevant)

The baits will be removed no later than 7 days after baiting commences.

I intend to commence baiting on / / and complete baiting on / /

Strychnine will be used at the following address:

Please be advised that strychnine is highly toxic. Please ensure children and other persons in your care are restricted from entering the site. Please restrain your pets, work dogs and stock to avoid the possibility of poisoning.

Regards,

(Senders Signature)

(Senders Address)

(Senders Name)

(Senders Phone Number)

Appendix 2

WARNING	
PEST ANIMAL CONTROL	
POISON BAIT	
POISON USED: STRYCHNINE	DATE LAID: / /
LAID HERE	
CONTACT	PH:

PO Box 157, Pacific Fair, Broadbeach, QLD 4218
Email: enquiries@nashcorp.com.au

Phone 07 5538 6444 Fax 07 5592 1256

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

Section 1 – Chemical Product and Company Identification

Product Name

strychnine hydrochloride

Proper Shipping Name

STRYCHNINE or STRYCHNINE SALTS

Product Use

Dangerous POISON

Shall NOT be available in packs for domestic use

Previously used as a tonic and stimulant

Reagent

Supplier

Nashcorp Pty Ltd

PO Box 157, Pacific Fair, Broadbeach, QLD 4101

Phone 07 5538 6444

Fax 07 5592 1256

Email: enquiries@nashcorp.com.au

Section 2 – Hazards Identification

Statement of Hazardous Nature

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.
According to the Criteria of NOHSC and the ADG Code.

Hazard Ratings

Flammability: LOW

Toxicity: EXTREME

Body Contact: EXTREME

Reactivity: LOW

Chronic: MODERATE

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

Risk

Risk Codes	Risk Phrases
R26/27/28	--- Very toxic by inhalation, in contact with skin and if swallowed.
R50/53	--- Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Safety

Safety Codes	Safety Phrases
S01	--- Keep locked up.
S22	--- Do not breathe dust.
S24	--- Avoid contact with skin.
S36	--- Wear suitable protective clothing.
S38	--- In case of insufficient ventilation, wear suitable respiratory equipment.
S37	--- Wear suitable gloves.
S39	--- Wear eye/face protection.
S51	--- Use only in well ventilated areas.
S09	--- Keep container in a well ventilated place.
S29	--- Do not empty into drains.
S40	--- To clean the floor and all objects contaminated by this material, use water.
S35	--- This material and its container must be disposed of in a safe way.
S13	--- Keep away from food, drink and animal feeding stuffs.
S27	--- Take off immediately all contaminated clothing.
S45	--- In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).
S57	--- Use appropriate container to avoid environmental contamination.
S61	--- Avoid release to the environment. Refer to special instructions/Safety Data sheets.
S60	--- This material and its container must be disposed of as hazardous waste.
S63	--- In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 3 – Hazards Identification

Name	CASRN	%
Strychnine Hydrochloride	1421--86--9	>98%

Section 4 – First Aid Measures

Swallowed

- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a Doctor.
- Urgent hospital treatment is likely to be needed.

- In the mean time, qualified first aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.

Eye

If this product comes in contact with the eyes:

- Immediately hold the eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, for at least 15 minutes.
- Transport to hospital or doctor without delay.

Skin

If skin or hair contact occurs:

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
- Transport to hospital, or Doctor.

Inhaled

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag---valve mask device, or pocket mask as trained. Perform CPR if necessary.

Notes to Physician

The main object of strychnine therapy is to control or prevent convulsions and asphyxia; immediate treatment involves the intravenous administration of diazepam (10mg – less for children), repeated as required. Muscle relaxants.

Section 5 – Fire Fighting Measures

Extinguishing Media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

Fire Fighting

- Alert Fire Brigade and tell them the location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or watercourse.
- Use fire fighting procedures suitable for surrounding area.

Fire/Explosion Hazard

- Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) – according to the circumstances under which the combustion process occurs, such materials may cause fires and/or dust explosions.
- Organic powders when finely divided over a range of concentrations regardless of particular size or shape and suspended in air or some other oxidizing medium may form explosive dust---air mixtures and result in a fire or dust explosion (including secondary explosions).
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited – particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

- In the same way as gases and vapours, dusts in the form of a cloud are only ignitable over a range of concentrations; in principle, the concepts of lower explosive limit (LEL) and upper explosive limit (UEL) are applicable to dust clouds but only the LEL is of practical use; --- this is because of the inherent difficulty of achieving homogenous dust clouds at high temperatures (for dusts the LEL is often called the 'Minimum Explosible Concentration' (MEC)).
Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), hydrogen chloride, phosgene, nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.

Fire Incompatibility

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Hazchem

2X

Section 6 – Accidental Release Measures

Minor Spills

- Clean up waste regularly and abnormal spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.

Major Spills

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell the location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or watercourse.

Personal Protective Equipment advice is contained in Section 8 of the MSDS

Section 7 – Handling and Storage

Procedure for Handling

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well ventilated area.
- Prevent concentration in hollows and sumps.
- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidising medium may form explosive dust---air mixtures and result in a fire or dust explosion (including secondary explosions).
- Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.
- Establish good housekeeping practices.
- Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.

Suitable Container

- Glass container is suitable for laboratory quantities.
- Lined metal can, lined metal pail/can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

For low viscosity materials:

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must be hermetically sealed.

Storage Incompatibility

- Avoid reaction with oxidising agents, bases and strong reducing agents.

Incompatible with alkali hydroxides and carbonates, aromatic ammonia, spirit, bromides and iodates.

Packaging Material Incompatibles

Chemical Name	Container Type
strychnine hydrochloride	"Acetal (Delrin)", "Cast iron", Neoprene.

Storage Requirements

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Section 8 – Exposure Controls/Personal Protection

Exposure Controls

The following materials had no OELs on our records

- Strychnine Hydrochloride CAS: 1421-86-9 CAS: 6101-04-8

Material Data

STRYCHNINE HYDROCHLORIDE

Strychnine is an acute convulsant poison acting at the level of the spinal cord in animals and man. The daily 8-hour TWA exposure to strychnine in air corresponds to a total dose of 0.02 mg/kg/day.

Personal Protection:

Respirator

- Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Eye

- Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient when complete eye protection is needed such as when handling bulk quantities, where there is a danger of splashing, or if the material may be under pressure.
- Chemical goggles wherever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.
- Full face shield (20cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

Hands/Feet

- Elbow length PVC gloves.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality, which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

The exact breakthrough time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage.

Other

- Overalls
- Eyewash unit.
- Barrier cream.
- Skin cleansing cream.

Engineering Controls

- Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

- Process controls, which involve changing the way a job activity, or process is done to reduce the risk.
- Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment.

Section 9 – Physical and Chemical Properties

Appearance

Colourless crystals or white crystalline crystals; mixes with water (1gm dissolves in 40ml water).

Physical Properties

Solid.

Mixes with water.

State	Divided Solid	Molecular Weight	370.91
Melting Range (°C)	Not available	Viscosity	Not Applicable
Boiling Range (°C)	Not applicable	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not available	pH (1% solution)	7
Decomposition Temp (°C)	Not available	pH (as supplied)	Not applicable
Autoignition Temp (°C)	Not available	Vapour Pressure (kPa)	Negligible
Upper Explosive Limit (%)	Not available	Specific Gravity (water=1)	Not available
Lower Explosive Limit (%)	Not available	Relative Vapour Density (air=1)	
Volatile Component (%vol)	Negligible	Evaporations Rate	Not applicable

Section 10 – Stability and Reactivity

Conditions contributing to instability

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerization will not occur.

For incompatible materials refer to Section 7 – Handling and Storage

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

Section 11 – Toxicological Information

Potential Health Effects

Acute Health Effects:

Swallowed

- Severely toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 5 gram may be fatal or produce serious damage to the health of the individual.
- The toxicity of strychnine is due to its strong excitatory effect on the central nervous system. Initially there may be tremors, stiffness and twitching of the face and legs; this progresses to apprehension, fear, nausea and a feeling of identity loss. Painful convulsions then occur after very minor stimuli. The body assumes a characteristic spastic posture with an arched back, extended limbs and the feet turned inwards. The jaw is rigidly shut and face muscles are contracted in a characteristic smile. The contradiction of the muscles of breathing and spasms of trunk muscles causes breathing to stop, leading to death. Strychnine is absorbed and distributed to various parts of the body within a very short period of time.

Eye

- Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.

Skin

- Skin contact with the material may produce severely toxic effects; systemic effects may result following absorption and these may be fatal.
- The material is not thought to be a skin irritant (as classified by EC Directives using animal models). Abrasive damage however, may result from prolonged exposures. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
- Entry into the blood stream, though, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

Inhaled

- Inhalation of dusts, generated by the material, during the course of normal handling, may produce severely toxic effects; these may be fatal.
- The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
- If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

Be Aware: Repeated minor exposures with only mild symptoms may have serious cumulative poisoning effect.

Chronic Health Effects

- Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
- Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on x-ray.

Be Aware: Repeated minor exposure with only mild symptoms may have serious cumulative poisoning effect.

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

Toxicity and Irritation

No data for this material.

Section 12 – Ecological Information

Very toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment.

Refer to special instructions/safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence:Air	Bioaccumulation	Mobility
Strychnine Hydrochloride	No Data Available	No Data Available	No Data Available	No Data Available

Section 13 – Disposal Considerations

- Containers may still present a chemical hazard/danger when empty.
- Return to supplier for reuse/recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorized landfill.
- Where possible retain the label warnings and MSDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common – the user should investigate:

- Reduction.
- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a landfill specifically licensed to accept chemical and/or pharmaceutical wastes or incineration in a licensed apparatus (after adding mixture with suitable combustible material).
- Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

Section 14 – Transportation Information



Labels Required: TOXIC

HAZCHEM:

2X (ADG7)

Air Transport IATA

ICAO/IATA Class:	6.1	ICAO/IATA Subrisk:	None
UN/ID Number:	1692	Packing Group:	I
Special Provisions:	A5		

Cargo Only

Packing Instructions:	673	Maximum Qty/Pack:	50kg
-----------------------	-----	-------------------	------

Passenger and Cargo

Packing Instructions:	666	Maximum Qty/Pack:	5kg
-----------------------	-----	-------------------	-----

Passenger and Cargo Limited Quantity

Packing Instructions:	Forbidden	Maximum Qty/Pack:	Forbidden
-----------------------	-----------	-------------------	-----------

Shipping name: STRYCHNINE or STRYCHNINE SALTS

Maritime Transport IMDG

IMDG Class	6.1	IMDG Subrisk:	P
UN Number:	1692	Packing Group:	I
EMS Number:	F---A,S---A	Special Provisions:	43
Limited Quantities:	0	Marine Pollutant:	Yes

Shipping name: STRYCHNINE or STRYCHNINE SALTS

Section 15 – Regulatory Information

Indications of Danger

N	Dangerous for the environment
T+	Very toxic

Poisons Schedule

S7,S4

Strychnine Hydrochloride

Hazard Alert Code: EXTREME

Material Safety Data Sheet

Issue Date 22 February 2013

Regulations

Strychnine hydrochloride (CAS: 1421---86---9, 6101---04---8 is found on the following regulatory lists:

“Australia – Australian Capital Territory – Environmental Protection Regulation: Ambient environmental standards (Domestic water supply – inorganic chemicals)”, “Australia – Australian Capital Territory – Environment Protection Regulation: Ambient environmental standards (STOCK – inorganic chemicals)”, “Australia – Australian Capital Territory – Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm – Domestic water supply quality”, “Australia – Australian Capital Territory – Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (IRRIG)”, “Australia – Australian Capital Territory – Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (STOCK)”, “Australia Drinking Water Guideline Values for Physical and Chemical Characteristics”, “Australia Hazardous Substances”, “Australia Inventory of Chemical Substances (AICS)”, “Australia National Pollutant Inventory”, “Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Appendix E (Part 2)”, “Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Appendix G”, “Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Appendix J (Part 2)”, “Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Schedule 4”, “Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Schedule 7”, “International Maritime Dangerous Goods Requirements (IMDG Code) – Marine Pollutants”, “International Maritime Dangerous Goods Requirements (IMDG Code) – Substance Index”, “Sigma---Aldrich Transport Information”, “United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments”, “WHO Guidelines for Drinking---water Quality – Chemicals for which guideline values have not been established”.

Section 16 – Other Information

Ingredients with Multiple CAS Numbers

Ingredient Name	CAS Strychnine
hydrochloride	1421---86---9, 6101---04---8

- The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Users should make their own investigations to determine the suitability of the information for their particular purposes. Nashcorp Pty Ltd shall not be held liable for any damage resulting from handling or contact with the above product.