SAFETY DATA SHEET

RURAL INLINE SOIL FUMIGANT

Date Prepared: 18th September 2018 **Replaces:** 22nd December 2016

1. IDENTIFICATION

Product Identifier:	Rural InLine Soil Fumigant
Other Means of Identification:	1,3-Dochloropropene (1,3-D) and Chloropicrin (Trichloronitromethane, Nitrochloroform)
Uses:	Soil Fumigant
Supplier Name:	TriCal Australia
Address:	5 Chamberlain St, Wingfield, SA, 5013
Telephone:	(08) 8347 3838 **or** 1300 FUMIG8
Email:	info@trical.com.au

2. HAZARDS IDENTIFICATION

Acute Toxicity – Inhalation, Category 1 and 2
Acute Toxicity – Oral, Category 3
Flammable Liquid, Category 1
Skin Corrosion/Irritation, Category 1A to 1C
Serious Eye Damage/Irritation, Category 1

Danger **Danger** **Danger** **Danger** **Danger**

GHS Hazard Phrases:

H224: Extremely flammable liquid and vapour
H330: Fatal if Inhaled
H301: Toxic if swallowed or in contact with skin
H314: Causes severe skin burns and eye damage
H318: Causes serious eye damage
H335: May cause respiratory irritation
H351: Suspected of causing cancer
H400: Very toxic to aquatic life

GHS Precaution Phrases:

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233: Keep drum tightly closed
P240: Ground/Bond drum and receiving equipment
P241: Use explosion-proof electrical/ventilating/lighting equipment
P242: Use only non-sparking tools
P243: Take precautionary measures against static discharge
P260: Do not breathe gas
P270: Do not eat, drink or smoke when using this product
P271: Use only outdoors in well ventilated areas
P284: Wear respiratory protection
P264: Wash hands, arms and face thoroughly after handling
P280: Wear protective gloves and eye protection

GHS Response Phrases:

P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P310: Immediately call a POISON CENTRE or doctor/physician
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P363: Wash contaminated clothing before reuse
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

GHS Storage and Disposal Phrases:

P403 + P233+ P235: Store in a well-ventilated place. Keep drum tightly closed. Keep cool
P405: Store locked up

Classified as **HAZARDOUS** according to the criteria of NOHSC
Classified as **DANGEROUS GOODS** for Land and Marine Transport (See Section 14)

3. COMPOSITION/INGREDIENTS

Identity (Other Names)	CAS Number	Proportion
1,3-Dichloropropene	000542-75-6	60.8%
Chloropicrin	000076-06-2	33.3%
Balance	Not available	5.9%

4. FIRST AID MEASURES

Consult the Poisons Information Centre (13 11 26) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.

General Advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Swallowed: Call the Poisons Information Centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the Poisons Information Centre or doctor. Never give anything by mouth to an unconscious person.

In Eye: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical attention, preferably from an ophthalmologist. Suitable emergency eye wash facility/water supply should be immediately available.

On Skin: Immediate continued and thorough washing in flowing water for at least 30 minutes is imperative while removing contaminated clothing. Prompt medical attention is essential. Wash clothing before reuse. Destroy contaminated leather items. Emergency wash water should be immediately available.

Inhaled: Move person to fresh air. If person is not breathing, call 000 or an ambulance, and then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc.) If breathing is difficult, oxygen should be administered by qualified personnel.

Advice to Doctor:

Most important symptoms and effects, both acute and delayed
Aside from the information found under Descriptions of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed
Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitisation or asthma like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision whether to induce vomiting or not should be made by a physician. Due to irritant properties, swallowing may result in burns/ulceration of mouth,

stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/oesophageal control if lavage is done. Probable mucosal damage may contraindicate the use of gastric lavage. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control centre or doctor, or going for treatment.

Excessive exposure may aggravate pre-existing asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

Pre-existing Conditions: Persons using Rural InLine should have a medical examination (especially respiratory system and skin) prior to use to detect pre-existing conditions that might place them at increased risk and to establish a baseline for future health monitoring. Persons with impaired respiratory functions may be at increased risk from exposure to Chloropicrin.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Water fog or fine spray, carbon dioxide, dry chemical, or foam. Water fog, applied gently, may be used as a blanket for extinguishing fire. General purpose synthetic foams (including AFF type) or protein foams are preferred if available. Alcohol resistant foams (ATC type) may function.

Unsuitable Extinguishing Media: Do not use direct water stream. Straight or direct water streams may not be effective in extinguishing fire.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Hazardous combustion products may include but not limited to nitrogen oxides, hydrogen chloride, hydrocarbons, carbon monoxide, and carbon dioxide.

Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Electrically ground and bond all equipment. Flammable mixtures of this product are readily ignited even by static discharge. Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition or flashback may occur. Flammable mixtures may exist within the vapour space of containers at room temperature. Flammable concentrations of vapour can accumulate at temperatures above flash point; see section 9. Dense smoke is produced when product burns.

Fire Fighting Procedures: Keep people away. Isolate and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Consider feasibility of a controlled burn to minimise environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Water may not be effective in extinguishing fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out of danger and reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of discolouration of the container. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimise property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the “Accidental Release Measures” and “Ecological Information” sections of this SDS.

Precautions for Fire Fighters:	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire-fighting clothing (including fire-fighting helmet, coat, pants, boots, and gloves). Avoid contact with this material during fire-fighting operations. If contact is likely, change to full chemical resistant clothing with SCBA. If this will not provide sufficient fire protection; consider fighting fire from a remote location. Consider use of unmanned hose holder or monitor nozzles. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.
Hazchem Code:	2WE

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	Only trained and properly protected personnel must be involved in clean-up operations. Extinguish all ignition sources in the vicinity of the spill or released vapour to avoid fire or explosion. No smoking in the area. Evacuate enclosed areas and keep bystanders out of low lying areas and move them upwind to open areas. Ground and bond all containers and handling equipment. Vapour explosion hazard. Keep out of sewers. For large spills, warn public of down-wind explosion hazard. Use appropriate safety equipment.
Personal Protective Equipment:	For small spills outdoors or in well-ventilated areas, wear an Australian Standards approved full-face tight-fitting respirator or loose-fitting powered air purifying respirator (PAPR) equipped with organic vapour cartridges. In addition to respiratory protection wear coveralls and chemically resistant gloves, apron, and footwear.
Containment of Spill:	**Small Spills:** If it can be done safely, invert or reposition the leaking container of Rural InLine so that the area with the leak is up and the flow reduced. If possible, put the container into an overpak. Cover or confine the leakage with an absorbent such as vermiculite, clay, sand, or other non-combustible absorptive material. Collect the spent absorbent material is a disposal drum. If the spill is on the ground, dig up enough of the soil to eliminate the contamination and place the soil in a disposal drum. **Large Spills:** Bund the area of large spills and contact TriCal Australa on (08) 8347 3838 (24 hours)
Environmental Precautions:	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

7. HANDLING AND STORAGE

Precautions for Safe Handling:	Keep out of reach of children. Do not swallow. Avoid breathing vapour or mist. Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Wash thoroughly after handling. Keep drum closed. Drums, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Use of non-sparking or explosion proof equipment may be necessary, depending on the type of operation. Keep away from heat, sparks, and flames. Never use air pressure for transferring product. No smoking, open flames or sources of ignition in handling and storage areas. Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flashback may occur. Electrically bond and ground all containers and equipment before transfer or use of material. Do not enter confined spaces unless adequately ventilated.
Conditions for Safe Storage:	Store containers upright in cool, well-ventilated locked storage preferably outside or detached from other buildings. Minimise sources of ignition, such as static build-up, heat, spark or flame. Flammable mixtures may exist within the vapour space of containers at room temperature. Do not store near or with oxidising materials. Be sure drum is closed completely.
Special	Do not use magnesium, aluminium or their alloys for handling equipment or containers.

Precautions:

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: 1,3-Dichloropropene: NOHSC TWA 1 ppm (4.5 mg/m^3), Skin. Carcinogen category 3, skin. Chloropicrin: NOHSC TWA 0.1 ppm (0.67 mg/m^3).

A 'skin' notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapours or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimise dermal exposures should be considered.

Engineering Controls: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Lethal concentrations may exist in areas with poor ventilation, including low lying areas.

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PAKAGING WORKERS:

Personal Protective Equipment: **Respiratory Protection:** Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply.

Protective Gloves: Potentially fatal if absorbed through the skin. Use gloves chemically resistant to this material. For help in selecting suitable equipment, consult AS 2161.

Eye Protection: Use chemical goggles. Wear a face-shield, which allows use of chemical goggles, or wear full face respirator, to protect face and eyes when there is any likelihood of splashes. Eye wash fountain/equipment should be located in immediate work area. If exposure causes eye discomfort, use a full face respirator.

Clothing: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, gloves, boots, apron, or full-body suit will depend on operation. A safety shower, or emergency washing facilities, should be located in the immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items, which cannot be decontaminated, such as shoes, belts, and watchbands should be removed and disposed of properly. If hands are cut or scratched, use chemical resistant gloves even for brief exposures.

Safety Boots: Wearing safety boots in industrial situations is advised.

APPLICATORS AND ALL OTHER HANDLERS:

Personal Protective Equipment: Wear cotton overalls buttoned to the neck and wrist and a washable hat, chemical resistant apron, elbow length neoprene gloves, chemical resistant footwear (non-sparking rubber boots – not steel capped) and full face respirator with organic vapour/gas cartridge or canister.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless to brown liquid
Odour:	Pungent
pH:	5.9 *CIPAC MT 75.2* 1% aqueous solution
Vapour Pressure:	Approx. 30 mmHg @ 20°C (moderately volatile)
Boiling Point:	200°F (93°C)
Freezing Point:	-120°F (-85°C)
Solubility in Water:	0.2g/100g
Specific Gravity/Density:	1.32 @ 23°C (H_2O = 1)
Solubility in water:	Emulsifiable

Flash Point:	39°C (PMCC)
Flammable Limits in Air:	**Lower:** 5.5% (V) (1,3-dichloropropene) **Upper:** 14.5% (V) (1,3-dichloropropene)
Autoignition Temperature:	308°C (586°F) *92/69/EEC A15*
Kinematic Viscosity:	0.748 mm2/s @ 40°C 0.938 mm2/s @ 20°C
Explosive Properties:	No *EEC A14*
Oxidising Properties:	No

10. STABILITY AND REACTIVITY

Chemical Stability and Conditions to Avoid:	Unstable at elevated temperatures. Avoid moisture, open flames, welding arcs, or other high temperature sources, which induce thermal decomposition. Generation of gas during decomposition can cause pressure in closed systems. Pressure build up can be rapid.
Incompatible Materials:	Moisture – Corrosive when wet. Reaction with water can generate gases and acids. Avoid contact with amines and strong bases, oxidising materials, metals such as zinc, cadmium, and magnesium and/or absorbent materials such as organic absorbents.
Hazardous Decomposition Products:	Depends on the temperature, air supply and the presence of other materials. Hazardous combustion products may include but are not limited to nitrogen oxides, hydrogen chloride, hydrocarbons, carbon monoxide, and carbon dioxide.
Polymerisation:	Not known to occur.

11. TOXICOLOGICAL INFORMATION

ACUTE Swallowed:	Moderate toxicity if swallowed. The oral LD_{50} for rats is > 100 (males) and 100-200 (females) mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death. Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems. Swallowing may result in gastrointestinal irritation or ulceration.
In Eyes:	May cause severe eye irritation with corneal injury, which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapours may cause lacrimation (tears) and eye irritation may be experienced as mild discomfort and redness.
On Skin:	Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness, and tissue damage. Prolonged or widespread skin contact may result in absorption of harmful amounts. The LD_{50} for skin absorption in rabbits is between 907 (males) and > 1000 (females) mg/kg. Classified as corrosive to the skin. Vapour may cause skin irritation. May cause more severe response if skin is abraded (scratched or cut). Skin contact may cause an allergic reaction in a small proportion of individuals.
Inhaled:	Brief exposure (minutes) to easily attainable concentrations may cause serious adverse effects, even death. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Excessive exposure to Chloropicrin may cause lung injury. May cause allergic respiratory response. Excessive exposure may cause Methemoglobinemia, thereby impairing the blood's ability to transport oxygen. May cause central nervous system effects and nausea or vomiting. Chloropicrin has also caused weak/irregular heart action and muscle damage upon severe exposure.
Respiratory	Chloropicrin. May cause allergic respiratory response.

Sensitisation:

Aspiration Hazard: Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

Effects of Repeated Exposure: **1,3-Dichloropropene**: Repeated contact may cause skin irritation with local redness. In animals, effects have been reported on the following organs: Liver, Kidney, Respiratory Tract, Bladder, Lung, and Nasal Tissue.
Chloropicrin: In animals, effects have been reported on the following organs: Gastrointestinal Tract, and Respiratory Tract.

CHRONIC Reproductive Effects: For the major components, Chloropicrin and 1,3-Dichloropropene, did not interfere with reproduction in animal studies.

Teratogenic Effects: Birth defects are unlikely. Even exposures having an adverse effect on the mother should have no effect on the foetus.

Mutagenic Effects: For the component 1.3-Dichloropropene, in-vitro toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative. For Chloropicrin, in-vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were inconclusive.

Carcinogenic Effects: 1,3-D has been shown to cause cancer in laboratory animals by the oral route when the dose exceeds the body's defence mechanisms. Inhalation exposure resulted in an increase in the normal occurrence of benign lung tumours in male mice. Not classified as a carcinogen by the Australian Advisory Committee on Chemicals Scheduling under normal conditions of exposure. 1,3-Dichloropropene is listed as a potential carcinogen for hazard communication purposes under the National Exposure Standards for Atmospheric Contaminants un the Occupational Environment [NOHSC:1003 (1995)].

12. ECOLOGICAL INFORMATION

Movement and Partitioning:

1,3-Dichloropropene
Mobility in soil: Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient, soil organic carbon/water: 23 – 80 Measured.
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient, n-octanol/water (Koc): 2.06 Measured

Chloropicrin
Mobility in soil: Potential for mobility in soil is very high (Koc between 0 and 50)
Partition coefficient, soil organic carbon/water (Koc): 36 – 62 Estimated.
Henry's Law Constant (H): 2.05E-03 atm*m^3/mole; 25°C Measured.
Distribution in Environment: Mackay Level 1 Fugacity Model:

Air	Water	Biota	Soil	Sediment
96.94%	2.76%	<0.01%	0.28%	<0.01%

Ecotoxicity: Material is highly toxic to aquatic organisms on an acute basis (LC_{50} or EC_{50} is < 1 mg/L in most sensitive species tested).
Fish Acute and Prolonged Toxicity
LC_{50}, rainbow trout (oncorhynchus mykiss), 96 h: 2.78 – 4.63 mg/L
LC_{50}, sheepshead minnow (cyprinodon variegatus), 96 h: 0.91 mg/L
Aquatic Invertebrate Acute Toxicity

EC_{50} eastern oyster (crassostrea virginica), 96 h shell growth inhibition: 0.67 mg/L

Aquatic Plant Toxicity

EbC_{50}, diatom navicular sp., biomass growth inhibition, 120 h: 0.29 mg/L

EbC_{50}, duckweed lemna sp., biomass growth inhibition, 14 h: 3.60 mg/L

Fish Chronic Toxicity Value (ChV)

fish, flow-through, 33 d, survival, LC_{50}, NOEC: 0.117 mg/Ll, LOEC: 0.204 mg/L

Aquatic Invertebrates Chronic Toxicity Value

water flea daphnia magna, 21 d, number of offspring, EC_{50}, NOEC: 0.073 mg/L, LOEC: 0.109 mg/L

Toxicity to Above Ground Organisms

oral LD_{50}, bobwhite (colinus virginianus): 152 mg/kg bodyweight

dietary LC_{50}, bobwhite (colinus virginianus): > 5620 mg/kg diet

LC_{50}, honey bee (apis mellifera): 18097 mg/m^3

Persistence / Degradability:

Based largely or completely on information for a similar material

- Degradation is expected in the atmospheric environment within minutes to weeks
- Degradation is expected in the soil environment within days to weeks
- 1.3-Dichloropropene has a stratospheric ozone depletion potential (ODP) of 0.02, relative to CFC 12 (ODP=1)

Based largely or completely on information for chloropicrin. Chloropicrin degrades to carbon dioxide in soil with a half-life between 8 hours and 4.5 days. In water, Chloropicrin degrades to carbon dioxide, bicarbonate, chloride, nitrate and nitrite within 32 hours when exposed to light. Half-life in air when exposed to simulated sunlight was 20 days with the end products being phosgene, nitric oxide, chlorine, nitrogen dioxide and dinitrogen tetroxide.

13. DISPOSAL CONSIDERATIONS

Disposal Methods: Empty containers should be triple rinsed and taken to your nearest drumMUSTER collection point. Do not use empty containers to store any other material.
If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

14. TRANSPORT INFORMATION

UN Number:	3390
Proper Shipping Name:	TOXIC BY INHALATION, LIQUID, CORROSIVE, N.O.S. (CHLOROPICRIN AND 1,3-DICHLOROPROPENE)
DG Class (Subsidiary Risk):	6.1 (3) (8)
Packaging Group:	I
Marine Pollutant	Yes
Hazchem Code:	2WE

15. REGULATORY INFORMATION

Poison Scheduling:	S7
Registration/Notification:	APVMA Product No. 63054

16. OTHER INFORMATION

Glossary

ACGIH: American Conference of Governmental Industrial Hygienists

BCF: Bioconcentration Factor – a measure for the characterisation of the accumulation of a chemical in an organism. It is defined as the concentration of a chemical in an organism (plants, microorganisms, animals) divided by the concentration in a reference compartment (e.g. food, surrounding water)

BOD: Biochemical oxygen demand – the amount of oxygen required by aerobic microorganisms to decompose the organic matter in a sample of water, such as that polluted by sewage. It is used as a measure of the degree of water pollution. Also called biological oxygen demand.
EC_{50}: median effective concentration. Statistically derived concentration of a substance in an environmental medium expected to produce a certain effect in 50% of test organisms in a given population under a defined set of conditions
EEL: Environmental exposure standard set by ERMA
Explosive Limits: The range of concentrations (% by volume in air) of a flammable gas or vapour that can result in an explosion or ignition in a confined space
Koc: the organic carbon petition coefficient (mL soil water / g organic carbon)
Kow: See Pow
LC_{50}: Lethal concentration 50%. A concentration of chemical in air or water that will kill 50% of the test organisms
LD_{50}: Lethal dose 50%. The doses of chemical that will kill 50% of the test animals receiving it.
NOSHC: National Occupational Health and Safety Commission of Australia, now SafeWork Australia
PEL: Permissible exposure level, a maximum allowable exposure level by law
Polymerisation: a chemical reaction in which small molecules (monomers) combine to form much larger molecules (polymers). A hazardous polymerisation reaction is one that occurs at a fast rate and releases large amounts of energy
Pow: the octanol-water partition coefficient is the ratio of the concentration of a chemical in octanol and in water at equilibrium and at a specified temperature. Octanol is an organic solvent that is used as a surrogate for natural organic matter. This parameter is used in many environmental studies to help determine the fate of chemicals in the environment.
STEL: Short term exposure limit. A term used to indicate the maximum average concentration allowed for a continuous 15 minute exposure period.
TLV: Threshold Limit Value, an exposure limit set by a competent authority
TWA: Time Weighted Average. The average concentration of a chemical in air over the total exposure time – usually an 8 hour working day

References
AS/NZS 1715-2009 Selection Use and Maintenance of Respiratory Protective Devices
AS/NZS 1716-2012 Respiratory Protective Devices
Australian Dangerous Goods Code
International Maritime Dangerous Goods Code
International Air Transport Association (IATA) Dangerous Goods Regulation
WorkSafe Australia Hazardous Substance Information System

DISCLAIMER: The information contained in this Safety Data Sheet is provided to the best of our knowledge at the date of issue, but no warranty can be made that the information is accurate or complete. Individuals reading this information must exercise their independent judgement in determining its appropriateness in any situation. TriCal Australia makes no representation as to the accuracy and comprehensiveness of the information and to the full extent allowed by the law excludes all liability whatsoever, whether with respect to negligence or otherwise, for any loss or damage arising from or connection with the supply or use of the information in this Safety Data Sheet.
Please read the label carefully before using this product.

CHANGE REGISTER

Revision Date	Revision Details
22 December 2016	**2. HAZARD IDENTIFICATION** – Hazard, Risk and Safety Phrases update in line with GHS **ALL SECTIONS** – Update to current references & Format change
18 September 2018	**Company Details changed –** from A-Gas Rural to TriCal Australia Pty Ltd