BOC
A Member of The Linde Group

SAFETY DATA SHEET

 # 125

Product Name **BACTIGAS CONCENTRATE**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**BOC LIMITED (AUSTRALIA)**
Address	10 Julius Avenue, North Ryde, NSW, AUSTRALIA, 2113
Telephone	131 262, (02) 8874 4400
Fax	132 427 (24 hours)
Emergency	1800 653 572 (24/7) (Australia only)
Web Site	http://www.boc.com.au/
Synonym(s)	125 - SDS NUMBER • BOC BACTIGAS CONCENTRATE • CONCENTRATE BACTIGAS • PRODUCT CODE: 282DRUM
Use(s)	CONCENTRATE • MANUFACTURING
SDS Date	08 Oct 2010

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1170	**DG Class**	3	**Subsidiary Risk(s)**	None Allocated
Packing Group	II	**Hazchem Code**	2Y	**EPG**	3A1

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
ETHYL ALCOHOL (NON-DENATURED)	C2-H6-O	64-17-5	90%
MELALEUCA ALTERNIFOLIA OIL (TEA TREE OIL)	Not Available	68647-73-4	10%
DENATURING AGENT	Not Available	Not Available	<0.9%

4. FIRST AID MEASURES

Eye	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
Skin	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.
Ingestion	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
Advice to Doctor	Treat symptomatically

5. FIRE FIGHTING MEASURES

Flammability Highly flammable. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Vapour may form explosive mixtures with air. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling. Earth containers when dispensing fluids.

Fire and Explosion Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

Extinguishing Water fog or foam. Prevent contamination of drains or waterways.

Hazchem Code 2Y

6. ACCIDENTAL RELEASE MEASURES

Spillage Contact emergency services where appropriate. Use personal protective equipment. Clear area of all unprotected personnel. Ventilate area where possible. Contain spillage, then cover / absorb spill with non-combustible absorbant material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all ignition sources.

7. STORAGE AND HANDLING

Storage Store in a cool, dry, well ventilated area, removed from oxidising agents, acids, alkalis, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection systems.

Handling Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

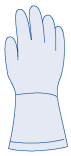
Exposure Stds ETHYL ALCOHOL (NON-DENATURED)

ES-TWA:	1000 ppm (1880 mg/m3)
WES-TWA:	1000 ppm (1880 mg/m3)

Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

PPE Wear splash-proof goggles and neoprene or nitrile gloves. When using large quantities or where heavy contamination is likely, wear: coveralls. Where an inhalation risk exists, wear: a Type A (Organic vapour) respirator. At high vapour levels, wear: an Air-line respirator or self Contained Breathing Apparatus (SCBA).



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	PALE YELLOW LIQUID	**Solubility (Water)**	SOLUBLE
Odour	MERISTIC ODOUR	**Specific Gravity**	NOT AVAILABLE
pH	NOT AVAILABLE	**% Volatiles**	90 % (Approximately)
Vapour Pressure	< 6 kPa @ 20°C	**Flammability**	HIGHLY FLAMMABLE
Vapour Density	1.59 (Air = 1) (Ethanol)	**Flash Point**	13°C (Ethanol)
Boiling Point	78.3°C (Ethanol)	**Upper Explosion Limit**	20 % (Approximately)
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	3 % (Approximately)
Evaporation Rate	NOT AVAILABLE		
Autoignition Temperature	390°C (Approximately)		

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended conditions of storage.

Conditions to Avoid Avoid heat, sparks, open flames and other ignition sources.

Material to Avoid Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), alkalis (eg. hydroxides), heat and ignition sources.

Decomposition May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

Hazardous Reactions Polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Low to moderate toxicity - irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. Chronic exposure may result in cirrhosis of the liver. Over exposure may result in central nervous system (CNS) depression, with nausea, dizziness and unconsciousness at high levels. The manufacturer reports that melaleuca alternifolia oil (tea tree oil) may produce toxic effects if swallowed.

Eye Irritant. Contact may result in irritation, lacrimation, pain and redness.

Inhalation Irritant. Over exposure may result in irritation of the nose and throat, coughing and headache. High level exposure may result in nausea, dizziness and drowsiness.

Skin Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis. May be absorbed through skin with harmful effects.

Ingestion Low toxicity. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain, diarrhoea, headache, dizziness and drowsiness with large quantities. Chronic exposure may result in liver damage.

Toxicity Data

ETHYL ALCOHOL (NON-DENATURED) (64-17-5)
- LC50 (Inhalation): 20,000ppm/10 hours (rat - reproductive effects)
- LD50 (Ingestion): 5560 mg/kg (guinea pig)
- LDLo (Ingestion): 1400 mg/kg (man - CNS, gastrointestinal tract effects)
- LDLo (Skin): 20 g/kg (rabbit)
- TCLo (Inhalation): 20000ppm/7 hours (1-22 days pregnant rat - reproductive)
- TDLo (Ingestion): 41g/kg woman (41 weeks pregnant - reproductive effects)

MELALEUCA ALTERNIFOLIA OIL (TEA TREE OIL) (68647-73-4)
- LD50 (Ingestion): 1900 mg/kg (rat)
- LDLo (Skin): 5000 mg/kg (rabbit)
- TDLo (Ingestion): 500 uL/kg (child)

12. ECOLOGICAL INFORMATION

Environment If spilled on soil, ethanol will either evaporate or leach into the ground due to the relatively high vapour pressure and low adsorption in soil. It will biodegrade, probably to acetic acid and formaldehyde. Ethanol will volatilise from water and biodegrade, and is not expected to bioconcentrate. It will photodegrade in air with a half-life ranging from hours (polluted air) to days (clean air).

13. DISPOSAL CONSIDERATIONS

Waste Disposal For small amounts absorb with sand, vermiculite or similar and dispose of to an approved landfill site. Contact the manufacturer for additional information if larger amounts are involved. Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

Shipping Name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)				
UN No.	1170	**DG Class**	3	**Subsidiary Risk(s)**	None Allocated
Packing Group	II	**Hazchem Code**	2Y	**EPG**	3A1

15. REGULATORY INFORMATION

Poison Schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information This product is used as a concentrated formulation for the manufacturing of Bactigas. the manufacturer reports that the denatured ethanol in this product is not suitable for human consumption.

Application method: Specialised manual handling and cylinder filling equipment.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

ABBREVIATIONS:
ADB - Air-Dry Basis.
BEI - Biological Exposure Indice(s)
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EINECS - European INventory of Existing Commercial chemical Substances.
IARC - International Agency for Research on Cancer.
M - moles per litre, a unit of concentration.
mg/m3 - Milligrams per cubic metre.
NOS - Not Otherwise Specified.
NTP - National Toxicology Program.
OSHA - Occupational Safety and Health Administration.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

Prepared By Risk Management Technologies

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End of Report