

PRODUCT NAME ETO MIXTURE

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name COREGAS PTY LTD
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Fax (02) 9794 2221
Emergency 1300 657 070
Email info@coregas.com
Web Site http://www.coregas.com/
Synonym(s) 30822009 - MSDS NUMBER
Use(s) INDUSTRIAL APPLICATIONS
MSDS Date 01 August 2008

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA

RISK PHRASES

R23 Toxic by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R45 May cause cancer.
R46 May cause heritable genetic damage.

SAFETY PHRASES

S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe gas/fumes/vapour/spray (where applicable).
S24/25 Avoid contact with skin and eyes.
S33 Take precautionary measures against static discharges.
S44 If you feel unwell, contact a doctor or Poisons Information Centre immediately (show label where possible).
S53 Avoid exposure - obtain special instructions before use.
S7/9 Keep container tightly closed and in a well ventilated place.

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

UN No.	1952	DG Class	2.2	Subsidiary Risk(s)	None Allocated
Pkg Group	None Allocated	Hazchem Code	2PE	EPG	2C1

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
ETHYLENE OXIDE	C2-H4-O	75-21-8	9%
CARBON DIOXIDE	CO2	124-38-9	91%

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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 the Poison Information Centre or a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. Apply artificial respiration if not breathing. Give oxygen if available.
Skin	Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.
Ingestion	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.
Advice to Doctor	Treat symptomatically
First Aid Facilities	Eye wash facilities and safety shower are recommended.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable.
Fire and Explosion	Non flammable. Temperatures in a fire may cause cylinders to rupture. Call fire brigade. Cool cylinders exposed to fire by applying water from a protected location. Do not approach cylinders suspected of being hot.
Extinguishing	Non flammable. Use water fog to cool containers from protected area.
Hazchem Code	2PE

6. ACCIDENTAL RELEASE MEASURES

Spillage	If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Inform manufacturer/supplier of leak. Wear appropriate PPE and carefully move it to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.
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7. STORAGE AND HANDLING

Storage	Do not store near sources of ignition or incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.
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.

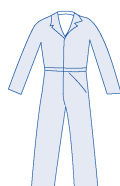
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Carbon dioxide	NOHSC (AUS)	5000.0	9000.0	30000.0	54000.0
		NOHSC (AUS)	12500.0	22500.0	30000.0	54000.0
	Ethylene Oxide	NOHSC (AUS)	1.0	--	--	--

Biological Limits No biological limit allocated.

Engineering Controls Use with adequate natural ventilation. Open windows and doors where possible. In poorly ventilated areas, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE Wear safety boots, leather gloves, coveralls and safety glasses. Where an inhalation risk exists, wear self Contained Breathing Apparatus (SCBA) Respirator and an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS	Solubility (water)	INSOLUBLE
Odour	SWEET ODOUR	Specific Gravity	NOT AVAILABLE
pH	NOT AVAILABLE	% Volatiles	NOT AVAILABLE
Vapour Pressure	NOT AVAILABLE	Flammability	NON FLAMMABLE
Vapour Density	NOT AVAILABLE	Flash Point	NOT RELEVANT
Boiling Point	NOT AVAILABLE	Upper Explosion Limit	NOT RELEVANT
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT RELEVANT
Evaporation Rate	NOT AVAILABLE	Autoignition Temperature	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended conditions of storage.

Conditions to Avoid Avoid contact with incompatible substances.

Material to Avoid Dust of aluminium, chrome manganese may ignite then explode when heated in carbon dioxide. Incompatible with acrylaldehyde, aziridine, metal acetylides, sodium peroxide. Ethylene oxide vapour may readily be initiated into explosive decomposition in the absence of air. Metal fillings containing copper, silver, mercury or magnesium should not be used if traces of acetylene could produce metal acetylides capable of detonating the vapour. Exposure to heating and cooling (e.g. fire) may continue polymerisation exothermically leading to container pressurisation and explosion. Explosive decomposition may be suppressed by many diluents. Liquid phase decomposition has been observed. Polymerisation occurs on contact with ammonia, alkali hydroxides, amines, metallic potassium, acids, covalent halides. Incompatible with bases, alcohols, air, m-nitroaniline, trimethyl amine, copper, iron chlorides, iron oxides, magnesium perchlorate, mercaptans, potassium, trichlorides, contaminants, alkane thiols, bromomethane.

Decomposition May evolve toxic gases if heated to decomposition.

Hazardous Reactions Polymerization is not expected to occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Toxic. Symptoms are usually delayed, except for serious exposure, and include general anaesthesia, nausea, vomiting, coughing, irritation to eyes and nose, loss of sense of smell and, progressively, stupor and coma. Associated with cataract development, nerve cell damage in animal systems and suspected leukaemia and stomach cancer. May be a reproductive hazard. Is a skin sensitiser. Ethylene oxide is classified as carcinogenic to humans (IARC Group 1).

Eye Severe irritant. Gas and liquid are extremely irritating. Contact lenses should not be worn when using this product. Conjunctivitis and cataracts have been reported.

Inhalation Irritant. Low level exposure may result in irritation with coughing and bronco spasm. High level exposure (above 1,000 ppm) may result in irritation and damage to the upper respiratory system, hoarseness, cough, headache, nausea and recurring vomiting, fatigue and pulmonary oedema. Less frequently reported effects include muscular weakness, abdominal discomfort and diarrhoea and acute encephalopathy.

Skin Irritant. Low temperature evaporating liquid can cause cold burns. Potential sensitising agent.

Ingestion Ingestion is considered unlikely due to product form.

Toxicity Data ETHYLENE OXIDE (75-21-8)
 LC50 (Inhalation): 800 ppm/4 hours (rat)
 LD50 (Ingestion): 72 mg/kg (rat)

12. ECOLOGICAL INFORMATION

Environment Carbon dioxide is a natural component of the earth's atmosphere (0.027 - 0.035 % v/v). However, increases in the atmospheric carbon dioxide levels have been linked with global warming, and hence emission of carbon dioxide into the atmosphere should be minimised as far as possible.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.

Legislation Dispose of in accordance with relevant local legislation.

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14. TRANSPORT INFORMATION

Transport Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.



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UN No.	1952	DG Class	2.2	Subsidiary Risk(s)	None Allocated
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IATA

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IMDG

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15. REGULATORY INFORMATION

Poison Schedule Classified as a Schedule 7 (S7) Poison 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 APPLICATION METHOD: Liquid withdrawal into specialised equipment.

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

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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 Material Safety Data Sheet ('MSDS').

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 MSDS, 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 MSDS.

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MSDS Date: 01 August 2008

End of Report