

**Product Name**     **ETHYLENE**

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

**Supplier Name**     **COREGAS PTY LTD**  
**Address**            66 Loftus Rd, Yennora, NSW, AUSTRALIA, 2161  
**Telephone**         (02) 9794 2223  
**Fax**                 (02) 9794 2221  
**Emergency**        1300 657 070  
**Email**             info@coregas.com  
**Web Site**          http://www.coregas.com/  
**Synonym(s)**        MSDS NO: 20831008  
**Use(s)**            INDUSTRIAL APPLICATIONS  
**MSDS Date**        20 Nov 2008

**2. HAZARDS IDENTIFICATION**

**CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA**

**RISK PHRASES**

R12                   Extremely Flammable.  
R67                   Vapours may cause drowsiness and dizziness.

**SAFETY PHRASES**

S16                   Keep away from sources of ignition - No smoking.  
S33                   Take precautionary measures against static discharges.  
S9                     Keep container in a well ventilated place.

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

<b>UN No.</b>	1962	<b>DG Class</b>	2.1	<b>Subsidiary Risk(s)</b>	None Allocated
<b>Packing Group</b>	None Allocated	<b>Hazchem Code</b>	2SE	<b>EPG</b>	2A2

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

Ingredient	Formula	CAS No.	Content
ETHYLENE	C2-H4	74-85-1	100%

**4. FIRST AID MEASURES**

**Eye**                    Treatment for cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

**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. For advice, contact a Poisons Information Centre (PIC) on 13 11 26 (Australia Wide) or a doctor.

**Skin**                    If skin or hair contact occurs, flush affected area with copious quantities of water. Use an emergency shower for large areas. Remove affected clothing as quickly as possible. Irrigate with tap or tepid water for 15 to 30 minutes. Seek medical attention.

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**Ingestion** Due to product form and application, ingestion is considered unlikely.

**Advice to Doctor** Treat for asphyxia and cold burns.

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### 5. FIRE FIGHTING MEASURES

**Flammability** Highly flammable. Heating to decomposition produces acrid smoke and irritating fumes. Product will add fuel to a fire. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights etc. when handling. No hazardous decomposition products expected when heated to decomposition.

**Fire and Explosion** Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Heating to decomposition produces acrid smoke and irritating fumes. Product will add fuel to a fire. Call fire brigade. To fight fire stop flow of gas, if safe to do so, and use carbon dioxide, dry chemical extinguisher or fine water spray. Cool cylinders exposed to fire by applying water from protected location. Do not approach cylinders suspected of being hot. Remove cool cylinders from the path of the fire. Evacuate area if unable to keep cylinders cool. If flame from cylinder is impinging on flammable materials or other cylinders evacuate the area. If the cylinder is standing alone then let the flame continue until all gas has been consumed. Ensure working area is well ventilated before re-entry.

**Extinguishing** Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways, absorb runoff with sand or similar.

**Hazchem Code** 2SE

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### 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.

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### 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Exposure Stds** ETHYLENE  
ES-TWA: Asphyxiant  
WES-TWA: Asphyxiant

**Biological Limits** No biological limit allocated.

**Engineering Controls** Do not inhale vapours. Use only in well ventilated areas. In poorly ventilated areas, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas.

**PPE** Wear leather or cotton gloves, safety boots and safety glasses. If spraying, wear: self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	COLOURLESS GAS	<b>Solubility (Water)</b>	SLIGHTLY SOLUBLE
<b>Odour</b>	SWEET ODOUR	<b>Specific Gravity</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE	<b>% Volatiles</b>	NOT AVAILABLE
<b>Vapour Pressure</b>	NOT AVAILABLE	<b>Flammability</b>	HIGHLY FLAMMABLE

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Vapour Density	NOT AVAILABLE	Flash Point	< 0°C
Boiling Point	NOT AVAILABLE	Upper Explosion Limit	36 %
Melting Point	NOT AVAILABLE	Lower Explosion Limit	2.7 %
Evaporation Rate	NOT AVAILABLE		
Autoignition Temperature	490°C		

### 10. STABILITY AND REACTIVITY

<b>Material to Avoid</b>	Explodes spontaneously when mixed with chlorine in sunlight. Reacts vigorously with some oxidising agents.
<b>Decomposition</b>	Heating to decomposition produces acrid smoke and irritating fumes. No hazardous decomposition products expected when heated to decomposition.
<b>Hazardous Reactions</b>	Violent polymerisation catalysed by copper above 400°C and 5,400 kPa.

### 11. TOXICOLOGICAL INFORMATION

<b>Health Hazard Summary</b>	Asphyxiant. Also a weak anaesthetic. Symptoms of exposure are directly related to displacement of oxygen from air. As the amount of oxygen inhaled is reduced from 21-14% volume, the pulse rate will accelerate and the rate and volume of breathing will increase. The ability to maintain attention and think clearly is diminished, muscular coordination is somewhat disturbed. As oxygen decreases from 14-10% volume, judgement becomes faulty, severe injuries may cause no pain. Muscular effort lead to rapid fatigue. Further reduction to 6% may cause nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to this low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in minutes. Ethylene is not classifiable as to its carcinogenicity (IARC Group 3).
<b>Eye</b>	Non irritant. However, direct contact with evaporating liquid may result in severe cold burns with possible permanent damage.
<b>Inhalation</b>	Non irritating - Asphyxiant. Effects are proportional to oxygen displacement.
<b>Skin</b>	Non irritant. Contact with evaporating liquid (eg. cold vessels or pipes containing low pressure liquid) may result in frost-bite with severe tissue damage.
<b>Ingestion</b>	Ingestion is considered unlikely due to product form.
<b>Toxicity Data</b>	ETHYLENE (74-85-1) LCLo (Inhalation): 950000 ppm/5 months

### 12. ECOLOGICAL INFORMATION

<b>Environment</b>	Toxic to plants.
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### 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	Cylinders should be returned to the manufacturer or supplier for disposal of contents.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

### 14. TRANSPORT INFORMATION

<b>Transport</b>	Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.
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CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

<b>Shipping Name</b>	ETHYLENE, COMPRESSED			<b>Subsidiary Risk(s)</b>	None Allocated
<b>UN No.</b>	1962	<b>DG Class</b>	2.1	<b>EPG</b>	2A2
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**IMDG**

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**15. REGULATORY INFORMATION**

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**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).

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**16. OTHER INFORMATION**

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**Additional Information** APPLICATION METHOD: Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to 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/m<sup>3</sup> - 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 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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**End of Report**