Material Safety Data Sheet

Acetylene

AIR LIQUIDE

Section 1. Chemical product and company identification

Commercial name(s). : **Acetylene**
Synonym : Ethine; Ethyne; Narcylen
Material uses : Various.
Supplier/Manufacturer : Air Liquide Canada Inc. 1250, René-Lévesque West, Suite 1700, Montreal, QC H3B 5E6
In case of emergency : (514) 878-1667

Section 2. Hazards identification

Physical state : Gas.
Emergency overview : DANGER!

MAY CATCH FIRE AND EXPLODE.
FLAMMABLE GAS.
CONTENTS UNDER PRESSURE.
GAS MAY CAUSE FLASH FIRE.
CAUSES DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, CENTRAL NERVOUS SYSTEM.
GAS REDUCES OXYGEN AVAILABLE FOR BREATHING.

Keep away from sources of ignition. Keep away from heat (<52°C/125°F). Use only with adequate ventilation. Extremely hazardous gas under pressure. Keep cylinder valve closed when the product is not used.

Routes of entry : Inhalation. Dermal contact. Eye contact.

Potential acute health effects

Inhalation : Inhalation of this product may cause dizziness, an irregular heartbeat, narcosis, nausea or asphyxiation.

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Ingestion : Since the product is a gas, it will probably be inhaled rather than ingested. Consider first the preventive measures in case of inhalation.

Potential chronic health effects : Carcinogenic effects: Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.
Mutagenic effects: Not available.
Teratogenic effects: Not available.

Medical conditions aggravated by over-exposure : Repeated or prolonged exposure is not known to aggravate any medical condition.

See toxicological information (section 11)

Section 3. Composition, Information on Ingredients

	CAS number	mole %
Canada		
Acetylene	74-86-2	100

This material is classified hazardous under the WHMIS Controlled Product Regulation in Canada.
See Chapters 8, 11, 14 and 15 for details.

Section 4. First aid measures

Prompt medical attention is mandatory in all cases of overexposure to this gas. Rescue personnel should wear a self-contained breathing apparatus and be aware of extreme fire and explosion hazard.

Inhalation : In case of inhalation, conscious persons should be assisted to an uncontaminated area and inhale fresh air. The person should be kept warmed and calm. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

Skin contact : In case of contact, immediately flush skin with plenty of water. Get medical attention if symptoms occur.

Eye contact : Individual in contact with a gas should not wear contact lenses. Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 20 minutes. Get medical attention if symptoms occur.

Ingestion : Since the product is a gas, it will probably be inhaled rather than ingested. Consider first the preventive measures in case of inhalation.

Notes to physician : The medical doctor must be warned that the person may suffer from anoxia.

Section 5. Fire fighting measures

Flammability of the product : Flammable.

Auto-ignition temperature : 304.85°C (580.7°F)

Flash point : Closed cup: -18.15°C (-0.7°F). (Pensky-Martens.)

Flammable limits : Lower: 2.2% Upper: 80 to 100%

Products of combustion : These products are carbon oxides.

Fire hazards in the presence of various substances : Extremely flammable in the presence of open flames, sparks and static discharge. Highly flammable in the presence of heat.

Fire-fighting media and instructions : Use dry chemical, carbon dioxide, water spray (fog) or foam.

In case of fire, allow gas to burn if flow cannot be shut off immediately. Apply water from a safe distance to cool container and protect surrounding area.

Extremely flammable. Gas may accumulate in confined areas. Gas may travel considerable distance to source of ignition and flash back.

Special protective equipment for fire-fighters : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) operated in positive pressure mode, with a full facepiece.

Section 6. Accidental release measures

Personal precautions : EVACUATE ALL PERSONNEL FROM AFFECTED AREA.
Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest Air Liquide Canada location.

Section 7. Handling and storage

Handling : Keep away from heat, sparks and flame. To avoid fire, eliminate ignition sources. Use explosion-proof electrical equipment (ventilating, lighting and material handling). Valve protection caps must remain in place unless cylinder is secured with valve outlet piped to usage point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

Storage : Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C/125°F. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no source of ignition in the storage or use area. Segregate from oxidizing materials.

Section 8. Exposure controls, personal protection

Engineering controls : Use only in well-ventilated areas.

Personal protection

Respiratory : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Wear suitable gloves for the application.

Eyes : Safety glasses with side shields.

Skin/Body : Wear appropriate personal protective suit.
Metal cap, safety shoes are recommended when handling cylinders.

Some applications of this product may require additionnal or other specific protective clothings. Please consult your supervisor.

Personal protection in case of a major leak : Safety glasses, goggles or face shield. Impervious gloves. Full suit. Metal cap, safety boots. Wear MSHA/NIOSH-approved self-contained breathing apparatus or equivalent and full protective gear.

Exposure limits : None assigned. Acts as a simple asphyxiant. Follow the latest published ACGIH recommendations when working with asphyxiants.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state : Gas.

Color : Colorless.

Odor : Ether./Garlic. (Slight.)

Molecular weight : 26.04 g/mole

Molecular formula : C_2H_2

Melting/freezing point : Sublimation temperature: -81.8°C (-115.2°F)

Critical temperature : 35.3°C (95.5°F)

Specific gravity : 0.9 (Water = 1)

Vapor density : 0.906 (Air = 1)

Section 10. Stability and reactivity

Stability and reactivity : Unstable.

Incompatibility with various substances : Reactive with oxidizing materials. Reacts with oxygen. Violent reaction may occur.

Hazardous polymerization : Will not occur.

Section 11. Toxicological information

Acute Effects

Inhalation : Inhalation of this product may cause dizziness, an irregular heartbeat, narcosis, nausea or asphyxiation.

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Ingestion : Since the product is a gas, it will probably be inhaled rather than ingested. Consider first the preventive measures in case of inhalation.

Potential chronic health effects : Carcinogenic effects: Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.
Mutagenic effects: Not available.
Teratogenic effects: Not available.

Target organs : Causes damage to the following organs: upper respiratory tract, central nervous system (CNS).

Section 12. Ecological information

Products of degradation : These gases are released as is in the atmosphere.

Section 13. Disposal considerations

Disposal : Do not attempt to dispose of the container or of its content. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to Air Liquide Canada for proper disposal. For emergency disposal, contact the closest Air Liquide Canada location.

Section 14. Transport information

Classification

TDG/ IMDG/ IATA :	UN number	Proper shipping name	Class	Packing group
	UN1001	ACETYLENE, DISSOLVED	2.1	-

NAERG : 116

Label

UN/Other regulations

Additional information

Cylinders should be transported in a secure position, in a well ventilated vehicule. The transportation of compressed gas cylinders in automobiles or in closed-body vehicules can present serious safety hazards and should be discouraged.

TDG

Special provisions
38, 42

IATA

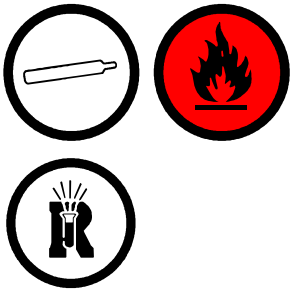
Quantity limitation - Passenger aircraft
Forbidden

Quantity limitation - Cargo aircraft
15 kg

Section 15. Regulatory information

Canada

WHMIS (Canada) : Class A: Compressed gas.
Class B-1: Flammable gas.
Class F: Dangerously reactive material.



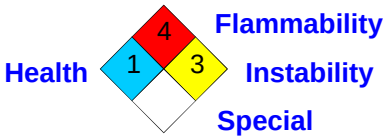
CEPA DSL: Acetylene

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

Health	*	1
Fire hazard		4
Reactivity		3
Personal protection		C

National Fire Protection Association (U.S.A.) :



References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2002. CGA C-7 Guide to the Preparation of Precautionary Labels and Marking of Compressed Gas Containers. CGA P-20 Standard for Classification of Toxic Gas Mixtures. CGA P-23 Standard for Categorizing Gas Mixtures Containing Flammable and Nonflammable Components.

Date of issue : 06/30/2005
Date of previous issue : 05/27/2004
Version : 3

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