



Date Prepared: July 1, 1992

Date Reviewed: March 21, 2006

MATERIAL SAFETY DATA SHEET

Product Name: Acetylene

March 21, 2006

1. Chemical, Product and Company Identification

Linweld, Inc
9911 Deer Park Road
Waverly, NE 68462

Telephone Number
Information: (402) 786-3330
Emergency: (402) 786-5277

Product Name: Acetylene
Chemical Name: Acetylene
Common Names: Acetylene; Ethyne

2. Hazard Ingredients and Identify Information

COMPONENT	% VOLUME	OSHA-PEL	ACGIH-TLV	CAS NUMBER
Acetylene	95.0 to 99.6	Not Available	Simple Asphyxiant	000074-86-2
Acetone	Unavailable	1000 ppm TWA	750 ppm TWA 1000 ppm STEL	000067-64-1

3. Physical and Chemical Characteristics

Boiling Point:	-118.8° F	Specific Gravity:	0.906	pH:	N/A
Melting Point:	-116° F	Evaporation Rate:	N/A	Physical State:	Gas
Vapor Pressure:	635 psig	Solubility (H ₂ O):	Soluble		

Appearance and Odor:

Pure acetylene is a colorless gas with an ethereal odor. Commercial (carbide) acetylene has a distinctive garlic-like odor.

How to Detect This Substance:

N/A

Other Physical and Chemical Data:

Liquid density at boiling point, 38.8 lb/ft³ (622 kg/m³)
Gas density at 70° F 1 atm, 0.0691 lb/ft³ (1.107 kg/m³)

4. Fire and Explosion Hazard Data

Flammability Classification:	Flammable	Flash Point (F):	N/A	LEL (%):	2.2
Ignition Temperature:	565° F	Method:	N/A	UEL (%):	82.5

Extinguishing Media:

Carbon dioxide; Dry chemical; Water spray

Fire Fighting Procedures:

Stop flow of gas before extinguishing fire. If flame is small and originating from fusible plug or valve stem, attempt to extinguish flame. A glove, heavy cloth or any wet material slapped across the flame will frequently extinguish it. If flame is large and originating from fusible plug, do not attempt to extinguish unless cylinder is outdoors or in a well-ventilated area away from sources of ignition. Escaping gas may be easily re-ignited by adjacent ignition sources. Use water spray to keep fire-exposed containers cool. Burning or heated cylinders may rupture violently. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Fight fire from protected location or maximum possible distance.

Fire & Explosion Hazard:

Gaseous acetylene is spontaneously combustible in air at pressure above 30 pi. Acetylene requires very low ignition energy; therefore extinguished fires may easily re-ignite if the flow of gas is not stopped. Acetylene has a density very similar to that of air, so leaking acetylene does not readily dissipate. Gas may travel to an ignition source and flash back.

5. Reactivity Data

Stability: Unstable Hazardous Polymerization: May occur

Incompatibility:

Oxygen and oxidizers including halogens and halogen compounds. Forms explosive acetylide compounds with copper, mercury, silver, brass (>66% copper), and brazing materials containing silver or copper.

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5. Reactivity Data (Continued)

Conditions to Avoid:

Do not allow free gas (outside of cylinder) to exceed 30 psi. Cylinders should not be exposed to sudden shock or sources of heat.

Hazardous Decomposition or Byproducts:

Under high pressure, acetylene decomposes to carbon and hydrogen. Carbon monoxide may be produced from burning. Under certain conditions, acetylene forms acetylide compounds when in contact with copper, silver and mercury.

Other Reactivity Data:

Flammable over an extremely wide range in air. Explosive reactions may occur on ignition. Reacts explosively with halogens and halogenated compounds.

Electrical classification: Class 1, Group A

6. Health Hazard Data

Route(s) of Entry:

Eye contact
No

Skin Contact
No

Skin Absorption
No

Inhalation
Yes

Ingestion
No

Health Hazards:

Acute

Product is a simple asphyxiant. Effects of oxygen deficiency may include any, all or none of the following: rapid breathing, diminished mental alertness, impaired muscle coordination, blurred speech, and fatigue. As asphyxiation progresses, nausea, vomiting, and loss of consciousness may occur, eventually leading to convulsions, coma and death.

Chronic

N/A

Carcinogenicity:

NTP
No

IARC Monographs
No

OSHA
No

Signs and Symptoms of Exposure and Emergency First Aid Procedures:

Eye Contact N/A

Skin Contact N/A

Inhalation

Product is a simple asphyxiant. Effects of oxygen deficiency may include any, all or none of the following: rapid breathing, diminished mental alertness, impaired muscle coordination, blurred speech, and fatigue. As asphyxiation progresses, nausea, vomiting, and loss of consciousness may occur, eventually leading to convulsions, coma and death.

Under normal operating conditions, acetone is not released from the cylinder. However, if the cylinder is overcharged with acetone or acetylene, acetone may occasionally "spit" out. Acetone is primarily a central nervous system toxin causing headache, nausea, dizziness, vomiting and fatigue. Moderate concentrations may cause respiratory irritation.

Conscious victim should be assisted to an uncontaminated area and allowed to inhale fresh air. Unconscious victim should be moved to an uncontaminated area and given assisted respiration with supplemental oxygen. Further treatment should be symptomatic and supportive.

Ingestion N/A

Medical Conditions Aggravated by Exposure:

Persons having health conditions that may be aggravated by exposure to acetylene should not be allowed to work with this product.

7. Precautions for Safe Handling and Use

Actions if Released or Spilled:

Evacuate all personnel from affected area. Use appropriate personal protective equipment.

If possible to do so safely, shut off all ignition sources and close cylinder valve. For small leaks, the cylinder may be moved outdoors and away from ignition sources. If leak is in the user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in cylinder or cylinder valve, contact the nearest distributor.

7. Precautions for Safe Handling and Use (Continued)**Waste Disposal Method:**

Do not attempt to dispose of waste or unused quantities. Return in properly labeled shipping container, with any valve outlet plugs or caps secured and valve protection caps in place.

Handling and Storage Precautions:

Use only in well-ventilated areas. Valve protection caps must remain in place unless cylinder is secured with valve outlet piped to point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure-reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder. Use a check valve or trap in the discharge line to prevent hazardous backflow into the cylinder.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavy traffic areas and emergency exits. Do not allow temperature of cylinder storage area to exceed 125° F. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Acetylene cylinders should never be stored on their sides. This makes the acetylene unstable and increases the likelihood of solvent release during use. Do not attempt to repair or alter cylinders. Do not tamper with the valve, pressure relief devices or fusible plugs. If the fusible plug or valve begins to leak, move the cylinder to an open area and contact the nearest distributor. A leaking cylinder should be properly marked to prevent further use. Never allow a torch flame to come in contact with the cylinder or fusible plug.

Do not store acetylene within 20 feet of oxygen or combustible materials unless separated by a one-half hour rated 5 feet high firewall. Post "NO SMOKING OR OPEN FLAMES" signs in the storage and use area.

Other Precautions:

To prevent solvent withdrawal from the cylinder during use, always follow supplier instructions for maximum withdrawal rate for each size of cylinder.

Compressed gas cylinders should only be refilled by qualified personnel. Shipment of compressed gas cylinders, which have been filled without the consent of the cylinder owner, is a violation of federal law (49 CFR).

Always secure cylinders in an upright position during transportation. Never transport cylinders in enclosed space such as a vehicle truck or van.

For additional recommendations, see CGA Pamphlets P-1, G-1, SB-4; NFPA 51; OSHA 1910 Subpart H and Q.

Transportation Information:

Shipping Name	Acetylene, dissolved
Hazard Class	2.1
ID Number	UN1001
Shipping Label - 1	Flammable Gas

NFPA Rating:

Health: 0 **Flammability:** 4 **Reactivity:** 3

8. Control Measures**Eye Protection:**

Safety goggles or glasses as appropriate.

Protective Gloves:

PVC or rubber gloves for laboratory use; as required for welding and cutting.

Respiratory Protection:

Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.

Ventilation:

Local exhaust to prevent acetylene accumulation above the exposure limit and to maintain oxygen concentration above 19.5%. Mechanical ventilation should be designed in accordance with electrical codes.

Other Protective Clothing or Equipment:

Safety shoes, safety shower.

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9. Regulatory Information

Acetone is regulated as a Hazardous Substance under CERCLA

Acetylene is listed under the Clean Air Act (CAA) Section 112(r) with a threshold quantity (TQ) of 10,000 pounds.

SARA TITLE III NOTIFICATIONS AND INFORMATION

Releases of acetone in quantities equal to or greater than the reportable quantity (RQ) of 5,000 pounds are subject to reporting to the National Response Center under CERCLA, Section 304 SARA Title III.

Sara Title III – Section 313 Supplier Notification

This product does not contain toxic chemicals subject to reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

SARA Title III – Hazard Classes

Acute Health Hazard

Fire Hazard

Sudden Release of Pressure Hazard

Reactivity Hazard

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