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**MATERIAL
SAFETY
DATA SHEET**
No. 1

SECTION 1. PRODUCT INFORMATION

NAME: Acetylene

TRADE NAME AND SYNONYMS: Acetylene, Dissolved (D.O.T.)

APPEARANCE AND ODOR: Pure Acetylene is a colorless gas with an ethereal odor. Commercial (carbide) Acetylene has a distinctive, garlic-like odor. Acetylene is slightly lighter than air.

CHEMICAL NAME AND SYNONYMS: Acetylene; Ethyne

CAS #: 74-86-2

DOT I.D. No: UN 1001

DOT HAZARD CLASS: Division 2.1

CHEMICAL FORMULA: C₂H₂

CHEMICAL FAMILY: Alkyne

ISSUE DATE AND REVISIONS: Revised March 2006

SECTION 2. HEALTH HAZARD DATA

EMERGENCY OVERVIEW: Acetylene is a flammable gas which is slightly lighter than air
Inhalation: Low concentrations (10-20% in air) cause symptoms similar to being intoxicated. Higher concentrations so as to exclude an adequate supply of oxygen to the lungs causes dizziness, drowsiness and eventual unconsciousness.

TIME WEIGHTED AVERAGE EXPOSURE LIMIT: Acetylene is defined as a simple asphyxiant (ACGIH 2005). OSHA, 2005 has no listing for Acetylene. Oxygen levels should be maintained at greater than 19.5 Molar percent at normal atmospheric pressure (pO₂>148 torr).

Acetylene is shipped dissolved in either Acetone or Dimethylformamide which under extreme withdrawal rates may be released with the Acetylene from the cylinder. Acetone has a TWA of 500 Molar PPM with an STEL of 750 Molar PPM; an A4 (Not Classifiable as a Human Carcinogen) carcinogenicity rating and a BEI of 50 mg/L which is non specific (ACGIH 2005). OSHA, 2005 lists a PEL (8 hr.TWA) of 1000 Molar PPM for Acetone. Dimethylformamide has a TWA of 10 Molar PPM ; an A4 (Not Classifiable as a Human Carcinogen) carcinogenicity rating, a skin notation and a BEI of 15 mg/L (ACGIH 2005). OSHA, 2005 lists a PEL (8 hr.TWA) of 10 Molar PPM with a skin notation for Dimethylformamide.

TOXICOLOGICAL PROPERTIES: As a narcotic gas or intoxicant causes Hypercapnia (an excessive amount of Carbon Dioxide in the blood). Repeated exposures of tolerable levels have not shown deleterious effects. However, the major property is the exclusion of an adequate supply of oxygen to the lungs.

Acetylene is not listed in the IARC, NTP or by OSHA as a carcinogen or potential carcinogen.
Persons in ill health where such illness would be aggravated by exposure to Acetylene should not be allowed to work with or handle this product.