



MATERIAL SAFETY DATA SHEET

PRODUCT IDENTIFIER: **ACETYLENE**

Product Name(s): ACETYLENE

Formula: C₂H₂

Synonym(s): ETHYNE, ETHINE

Chemical Family: HYDROCARBON

PRODUCT USE(S): WELDING, CUTTING
CHEMICAL SYNTHESIS

W.H.M.I.S. Classification
Class(es): A, B, F

HAZARDOUS INGREDIENTS:

INGREDIENT PARAMETERS	C.A.S. / P.I.N. NUMBER(S)	CONC. % VOL./VOL.	L.D. 50 (Species & Route)	L.C. 50 (Species & Route)
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ACETYLENE	74862/1001	APPR. 100	NOT APPL.	NOT APPL.
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Note: LCLo 50% inh1-man/5min, TCLo 33% inh1-man/7min (Anaesthesia)

PHYSICAL DATA

PHYSICAL STATE:	Gas @ N.T.P.
ODOUR AND APPEARANCE:	Colourless with garlic-like odour
ODOUR THRESHOLD:	565 ppm
SPECIFIC GRAVITY (air=1):	0.908 (@0°C and 1 atm.)
VAPOUR PRESSURE:	1,724 kPa/250 psig (@21.1°C/70°F)
VAPOUR DENSITY:	1.175 kg/m ³
EVAPORATION RATE:	Not Appl.
BOILING POINT:	-75.0°C (@ 170kPa)
FREEZING POINT:	-82.2°C (-116°F)
pH:	Not Applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not Available

SOLUBILITY IN WATER: 1.1 (vol./vol.)

% VOLATILES: 100

FOR TRANSPORT EMERGENCY CALL COLLECT CANUTEC TEL: 1-613-996-6666

FIRE OR EXPLOSION HAZARDS

CONDITIONS OF FLAMMABILITY:	Highly flammable. Acetylene may be ignited by static electricity and all common sources of ignition. Gas escaping in the air may ignite due to friction. When undissolved Acetylene may decompose if subject to pressures above 15 psig.
MEANS OF EXTINCTION:	Cool containers with water spray from maximum distance. Do not aim at source: gas may reignite easily. Evacuate area. Shut off gas if it can be done without risk. Containers may rupture when subject to localized heating. Cylinders may have fusible Safety Relief Devices near the valve and on the bottom.
FLASH POINT:	Flammable Gas
UPPER FLAMMABLE LIMIT: 82.0%	LOWER FLAMMABLE LIMIT: 2.5%
AUTOIGNITION TEMPERATURE:	305°C (581 °F)
HAZARDOUS COMBUSTION PRODUCTS:	CO ₂ , CO, Hydrocarbons.
SENSITIVITY TO MECHANICAL IMPACT:	Decomposition may occur.
SENSITIVITY TO STATIC DISCHARGE:	Ignitable by static electricity when within the flammability range.
SPECIAL PROCEDURES:	Evacuate areas where a leak or a spill is present. Fight the surrounding fires at the case may be. Cylinders have fusible Safety Relief Devices that melt if the temperature reaches 100 °C. rupturing cylinders may send debris over 100 metres (300feet) away.

REACTIVITY DATA

CONDITIONS OF CHEMICAL UNSTABILITY:	Stable when dissolved (in cylinders the solvent is commonly acetone). Unstable if the pressure is above 15psig.
INCOMPATIBILITY:	Air, Oxidizers, Alkali Metals, Halogens, Hydries.
CONDITIONS OF REACTIVITY:	Acetylene may form explosive compounds with COPPER (alloys over 65%), MERCURY, SILVER.
HAZARDOUS DECOMPOSITION PRODUCTS:	H ₂ , CO, Hydrocarbons.

TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN (CONTACT):	NO
SKIN (ABSORPTION):	NO
EYE CONTACT:	YES
INHALATION:	YES
INGESTION:	NO
EFFECTS OF ACUTE EXPOSURE:	
May displace air in enclosed spaces. If oxygen concentration falls below 18% symptoms of asphyxia may develop. Acetylene at concentrations above 10% may act as a general anaesthetic. Concentrations to 33% may cause unconsciousness in 7 minutes.	
EFFECTS OF CHRONIC EXPOSURE:	NONE KNOWN
EXPOSURE LIMITS:	2500 ppm Ceiling (OSHA)
IRRITANCY:	Lung irritant when PURE and at pressures higher than atmospheric.
SENSITIZATION:	NONE
CARCINOGENICITY:	NONE
REPRODUCTIVE TOXICITY:	NONE
TERATOGENICITY:	NONE
MUTAGENICITY:	NONE
TOXIC SYNERGISTIC PRODUCTS:	NONE

FIRST AID

EYE:	Acetylene may harm the unprotected eye if delivered at pressures higher than atmospheric.
INGESTION:	Not applicable
INHALATION:	Move victim to fresh air if possible. Administer C.P.R. if breathing has stopped. If breathing is difficult give oxygen. Obtain medical attention.
SKIN:	Treat burns from fires.

PREVENTIVE MEASURES

PERSONAL PROTECTION

EYE:	Safety glasses or goggles to protect from accidental deliveries (leaks) under pressure.
HAND:	Not applicable.
FEET:	Safety footwear where applicable.
CLOTHING:	Long sleeves, trousers recommended.
RESPIRATOR:	Not applicable where oxygen concentration is kept above 18%.

ENGINEERING CONTROLS: Provide good ventilation. Keep away from all sources of ignition. Use only electrical equipment designed for a flammable atmosphere. Specific design considerations may be necessary for piping and vessels.

SPILL AND LEAK PROCEDURE: Remove all sources of ignition. Clear the area. Shut off the source if without risk. Use SCBA to enter confined spaces after monitoring for flammable conditions. Leave the danger area. Try to stop the leak at source if without risk. Gas will dissipate depending on the site/area ventilation. Verify oxygen concentration prior to re-entry.

WASTE DISPOSAL: Do not discard empty cylinders. Acetone may still be present. Return the cylinder where applicable. Waste cylinders may have to be disposed in accordance to Federal, Provincial and Municipal requirements.

HANDLING PROCEDURES & EQUIPMENT: Keep away from ALL SOURCES OF IGNITION. Ensure good ventilation. Use appropriate carts for moving containers. Secure container when in use. Close the container valve when NOT in use, or when empty. Secure (restrain) during transportation or use. Use backflow preventive devices (checkvalves) on piping & tubing (including hoses). Use only with equipment designed for Acetylene use. Always keep containers upright.

STORAGE REQUIREMENTS: Store in well ventilated areas. Keep away from sources of ignition. Store at temperatures below 52°C (125°F).

SPECIAL SHIPPING INFORMATION: Transport upright in well-ventilated vehicle. Do not transport in trunk of enclosed vehicle. Commercial (cylinders) quantities may NOT be transported in passenger compartments. Secure containers during transportation and ensure that valve protection is in place.

T.D.G. SHIPPING NAME:	Acetylene	T.D.G. CLASSIFICATION CLASS(ES):	2.1
T.D.G. P.I.N. / U.N. :	1001		

PREPARED BY:	Josef Gas
TEL:	(416) 658-1212
EFFECTIVE DATE:	JANUARY 1 2016

