



## Safety Data Sheet

Material Name: ACETYLENE, DISSOLVED

SDS ID: MAT00280

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### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

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**Material Name**

ACETYLENE, DISSOLVED

**Synonyms**

ACETYLENE; ETHYNE; WELDING GAS; ACETYLEN; ETHINE; NARCYLEN; VINYLENE; UN 1001; C<sub>2</sub>H<sub>2</sub>;

**Chemical Family**

Hydrocarbons, aliphatic

**Product Use**

Industrial and Specialty Gas Applications.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

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### Section 2 - HAZARDS IDENTIFICATION

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**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Flammable Gases - Category 1

Gases Under Pressure - Dissolved gas

Specific Target Organ Toxicity - Single Exposure - Category 3 ( central nervous system )

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**



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Extremely flammable gas.  
Contains gas under pressure; may explode if heated.  
May cause drowsiness or dizziness.  
May displace oxygen and cause rapid suffocation.

**Precautionary Statement(s)****Prevention**

Keep away from heat/sparks/open flame/hot surfaces - No smoking.  
Use only outdoors or in a well-ventilated area.  
Avoid breathing dust/fume/gas/mist/vapours/spray.

**Response**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
Eliminate all ignition sources if safe to do so.  
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
Call a POISON CENTER or doctor if you feel unwell.

**Storage**

Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Protect from sunlight.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other Hazards**

Rapid release of compressed gas may cause frostbite. Explosive with or without contact with air.

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### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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CAS	Component Name	Percent
74-86-2	ACETYLENE, DISSOLVED	100

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### Section 4 - FIRST AID MEASURES

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**Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**Skin**

Wash exposed skin with soap and water.

**Eyes**



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Flush eyes with plenty of water.

**Ingestion**

If swallowed, get medical attention.

**Most Important Symptoms/Effects****Acute**

Frostbite, suffocation, Central nervous system depression

**Delayed**

No information on significant adverse effects.

**Note to Physicians**

For inhalation, consider oxygen.

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### Section 5 - FIRE FIGHTING MEASURES

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**Extinguishing Media****Suitable Extinguishing Media**

carbon dioxide, regular dry chemical, Large fires: Use regular foam or flood with fine water spray.

**Unsuitable Extinguishing Media**

None known.

**Special Hazards Arising from the Chemical**

Severe explosion hazard. Vapor/air mixtures are explosive. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

**Hazardous Combustion Products**

Oxides of carbon.

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking. Stop flow of gas.

**Special Protective Equipment and Precautions for Firefighters**

Wear personal protective clothing and equipment such as self-contained breathing apparatus (SCBA) for protection against possible exposure.



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### Section 6 - ACCIDENTAL RELEASE MEASURES

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#### Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

#### Methods and Materials for Containment and Cleaning Up

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304).

#### Environmental Precautions

Avoid release to the environment.

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### Section 7 - HANDLING AND STORAGE

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#### Precautions for Safe Handling

Keep away from heat/sparks/open flame/hot surfaces - No smoking. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray.

#### Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Protect from sunlight.

Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.

#### Incompatible Materials

metals, halogens, oxidizing materials, metal carbide, reducing agents, halo carbons

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### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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#### Component Exposure Limits

ACETYLENE, DISSOLVED	74-86-2
ACGIH:	(See Appendix F: Minimal Oxygen Content)
NIOSH:	2500 ppm Ceiling; 2662 mg/m <sup>3</sup> Ceiling

#### EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures

There are no biological limit values for any of this product's components.



## Safety Data Sheet

**Material Name: ACETYLENE, DISSOLVED****SDS ID: MAT00280****ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment****Eye/face protection**

Eye protection not required, but recommended.

**Skin Protection**

Protective clothing is not required.

**Respiratory Protection**

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

Protective gloves are not required, but recommended.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Not available	Physical State	gas
Odor	sweet odor	Color	colorless
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	Not available
Freezing point	Not available	Evaporation Rate	Not available
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	305 °C (581 °F)	Flash Point	Not available
Lower Explosive Limit	2.5 %	Decomposition	Not available
Upper Explosive Limit	100 %	Vapor Pressure	760 mmHg at -84 °C
Vapor Density (air=1)	0.9	Specific Gravity (water=1)	Not available
Water Solubility	0.94 % (@ 25 °C)	Partition coefficient: n-octanol/water	2691.53
Viscosity	0.01 cp	Solubility (Other)	Not available



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Bioconcentration Factor (BCF)	3.48	Density	1.1747 g/L at 0 °C
Henry's Law Constant	0.00277024 atm-m <sup>3</sup> /mole	KOC	4508.17 (estimated from water solubility)
Physical Form	gas	Sublimation	-84 °C (-119 °F)
Molecular Formula	H-C-C-H	Molecular Weight	26.04

**Solvent Solubility****Soluble**

acetone, Benzene, chloroform, ether

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**Section 10 - STABILITY AND REACTIVITY**

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**Chemical Stability**

May decompose violently on heating. May explode when heated.

**Possibility of Hazardous Reactions**

Polymerizes with evolution of heat. Avoid contact with curing agents, accelerators, and/or initiators.

**Conditions to Avoid**

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

metals, halogens, oxidizing materials, metal carbide, reducing agents, halo carbons

**Hazardous decomposition products**

Oxides of carbon

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**Section 11 - TOXICOLOGICAL INFORMATION**

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**Information on Likely Routes of Exposure****Inhalation**

nausea, vomiting, chest pain, wheezing, headache, drowsiness, dizziness, loss of coordination, bluish skin color, suffocation, lung congestion, coma

**Skin Contact**

rash

**Eye Contact**

no information on significant adverse effects

**Ingestion**

ingestion of a gas is unlikely



## Safety Data Sheet

**Material Name: ACETYLENE, DISSOLVED****SDS ID: MAT00280****Acute and Chronic Toxicity****Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and no selected endpoints have been identified

**Immediate Effects**

Frostbite, suffocation, Central nervous system depression

**Delayed Effects**

No information on significant adverse effects.

**Irritation/Corrosivity Data**

No data available.

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

Category 3. central nervous system

**Specific Target Organ Toxicity - Repeated Exposure****Aspiration hazard**

No data available.

**Medical Conditions Aggravated by Exposure**

No data available.

**Additional Data**

Stimulants such as epinephrine may induce ventricular fibrillation.

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**Section 12 - ECOLOGICAL INFORMATION**

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**Component Analysis - Aquatic Toxicity**

No LOLI ecotoxicity data are available for this product's components



## Safety Data Sheet

**Material Name: ACETYLENE, DISSOLVED****SDS ID: MAT00280****Persistence and Degradability**

No information available for the product.

**Bioaccumulative Potential**

No information available for the product.

**Mobility**

No information available for the product.

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### Section 13 - DISPOSAL CONSIDERATIONS

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**Disposal Methods**

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. D003.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components

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### Section 14 - TRANSPORT INFORMATION

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## US DOT Information:

Shipping Name: Acetylene, dissolved

Hazard Class: 2.1

UN/NA #: UN1001

Required Label(s): 2.1

## TDG Information:

Shipping Name: Acetylene, dissolved

Hazard Class: 2.1

UN#: UN1001

Required Label(s): 2.1

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### Section 15 - REGULATORY INFORMATION

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**U.S. Federal Regulations**

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

**SARA Section 311/312 (40 CFR 370 Subparts B and C)**

Acute Health: Yes Chronic Health: No Fire: Yes Pressure: Yes Reactivity: Yes

**U.S. State Regulations**

The following components appear on one or more of the following state hazardous substances lists:





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Component	CAS	CA	MA	MN	NJ	PA
ACETYLENE, DISSOLVED	74-86-2	Yes	Yes	Yes	Yes	Yes

**Not listed under California Proposition 65****Canadian WHMIS Ingredient Disclosure List (IDL)**

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

**WHMIS Classification**

ABF

**Component Analysis - Inventory**

ACETYLENE, DISSOLVED (74-86-2)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

**Section 16 - OTHER INFORMATION****NFPA Ratings**

Health: 1 Fire: 4 Reactivity: 3

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

Updated: 05/01/2015

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National



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Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

### **Other Information**

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