



**MATHESON**

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## Safety Data Sheet

**Material Name: ACETYLENE, DISSOLVED**

**SDS ID: MAT00280**

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**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.

3 Mountainview Road

Warren, NJ 07059

General Information: 1-800-416-2505

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

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

### Section 2 - HAZARDS IDENTIFICATION

**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)**

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/vapors/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.



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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.

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

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

**Section 4 - FIRST AID MEASURES****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**

Flush eyes with plenty of water.

**Ingestion**

If swallowed, get medical attention.

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

Frostbite, suffocation, Depression of central nervous system

**Delayed**

No information on significant adverse effects.

**Note to Physicians**

For inhalation, consider oxygen.

**Section 5 - FIRE FIGHTING MEASURES****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



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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.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**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.

### Section 7 - HANDLING AND STORAGE

**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/vapors/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

### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**Component Exposure Limits**

|                      |                                                             |
|----------------------|-------------------------------------------------------------|
| ACETYLENE, DISSOLVED | 74-86-2                                                     |
| ACGIH:               | (See Appendix F: Minimal Oxygen Content, explosion hazard ) |
| NIOSH:               | 2500 ppm Ceiling ; 2662 mg/m3 Ceiling                       |

**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.



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**Material Name: ACETYLENE, DISSOLVED****SDS ID: MAT00280****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**

|                                 |                                            |                                               |                                     |
|---------------------------------|--------------------------------------------|-----------------------------------------------|-------------------------------------|
| <b>Appearance</b>               | Not available                              | <b>Physical State</b>                         | gas                                 |
| <b>Odor</b>                     | sweet odor                                 | <b>Color</b>                                  | colorless                           |
| <b>Odor Threshold</b>           | Not available                              | <b>pH</b>                                     | Not available                       |
| <b>Melting Point</b>            | Not available                              | <b>Boiling Point</b>                          | Not available                       |
| <b>Boiling Point Range</b>      | Not available                              | <b>Freezing point</b>                         | Not available                       |
| <b>Evaporation Rate</b>         | Not available                              | <b>Flammability (solid, gas)</b>              | Not available                       |
| <b>Autoignition Temperature</b> | 305 °C (581 °F )                           | <b>Flash Point</b>                            | Not available                       |
| <b>Lower Explosive Limit</b>    | 2.5 %                                      | <b>Decomposition temperature</b>              | Not available                       |
| <b>Upper Explosive Limit</b>    | 100 %                                      | <b>Vapor Pressure</b>                         | 760 mmHg @ -84 °C                   |
| <b>Vapor Density (air=1)</b>    | 0.9                                        | <b>Specific Gravity (water=1)</b>             | Not available                       |
| <b>Water Solubility</b>         | 0.94 % (@ 25 °C )                          | <b>Partition coefficient: n-octanol/water</b> | 2691.53                             |
| <b>Viscosity</b>                | 0.01 cp                                    | <b>Kinematic viscosity</b>                    | Not available                       |
| <b>Solubility (Other)</b>       | Not available                              | <b>Bioconcentration Factor (BCF)</b>          | 3.48                                |
| <b>Density</b>                  | 1.1747 g/L at 0 °C                         | <b>Henry's Law Constant</b>                   | 0.00277024 atm-m <sup>3</sup> /mole |
| <b>KOC</b>                      | 4508.17 (estimated from water solubility ) | <b>Physical Form</b>                          | gas                                 |
| <b>Sublimation</b>              | -84 °C (-119 °F )                          | <b>Molecular Formula</b>                      | H-C-C-H                             |
| <b>Molecular Weight</b>         | 26.04                                      |                                               |                                     |



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**Material Name: ACETYLENE, DISSOLVED****SDS ID: MAT00280****Solvent Solubility****Soluble**

acetone, Benzene, chloroform, ether

**Section 10 - STABILITY AND REACTIVITY****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

**Section 11 - TOXICOLOGICAL INFORMATION****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

**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.

**Product Toxicity Data****Acute Toxicity Estimate**

No data available.

**Immediate Effects**

Frostbite, suffocation, Depression of central nervous system

**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

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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.

**Section 12 - ECOLOGICAL INFORMATION****Component Analysis - Aquatic Toxicity**

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

**Persistence and Degradability**

No information available for the product.

**Bioaccumulative Potential**

No information available for the product.

**Mobility**

No information available for the product.

**Section 13 - DISPOSAL CONSIDERATIONS****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.

**Section 14 - TRANSPORT INFORMATION****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**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

**Section 15 - REGULATORY INFORMATION****U.S. Federal Regulations**

None of this product's 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.



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**Material Name: ACETYLENE, DISSOLVED****SDS ID: MAT00280****SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories**

Flammable; Gas Under Pressure; Specific Target Organ Toxicity

**U.S. State Regulations**

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

| Component                   | CAS            | CA  | MA  | MN  | NJ  | PA  |
|-----------------------------|----------------|-----|-----|-----|-----|-----|
| <b>ACETYLENE, DISSOLVED</b> | <b>74-86-2</b> | Yes | Yes | Yes | Yes | Yes |

**California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)**

Not listed under California Proposition 65.

**Component Analysis - Inventory****ACETYLENE, DISSOLVED (74-86-2)**

| US  | CA  | AU  | CN  | EU  | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|
| Yes | DSL | Yes | Yes | EIN | Yes       | Yes       | Yes               | No                |

| KR - REACH CCA | MX  | NZ  | PH  | TH-TECI | TW, CN | VN (Draft) |
|----------------|-----|-----|-----|---------|--------|------------|
| No             | Yes | Yes | Yes | Yes     | Yes    | Yes        |

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

Health: 1 Fire: 4 Instability: 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; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); 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; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); 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; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; 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; MX - Mexico; Ne - Non-specific; NFPA

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- National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; 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; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

**Other Information****Disclaimer:**

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