

Safety Data Sheet

Acetylene

SECTION 1

Identification

GHS product identifier	Acetylene
Chemical name	acetylene
Other means of identification	Ethyne; Ethine; Narcylen; C ₂ H ₂ ; Acetylen; UN 1001; Vinylene
Product type	Gas.
Product use	Synthetic/Analytical chemistry.
Synonym	Ethyne; Ethine; Narcylen; C ₂ H ₂ ; Acetylen; UN 1001; Vinylene
SDS #	001001
Supplier's details	EspriGas 500 Northridge Road, Suite 200 Atlanta, GA 30350 1.800.720.1563 Inside the US: 1-800-424-9300 (Chemtrec, 24 hours) Outside the US: 1-703-527-3887 (Chemtrec, 24 hours)
24-hour telephone	EspriGas Customer Support Center: 1.800.720.1563

SECTION 2

Hazards Identification

OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	FLAMMABLE GASES – Category 1A GASES UNDER PRESSURE – Compressed gas
GHS Label Elements	
Hazard pictograms	Flame; Gas cylinder
Signal word	Danger
Hazard statements	H220 – Extremely flammable gas. H280 – Contains gas under pressure; may explode if heated. May react explosively even in the absence of air at elevated pressure and/or temperature. May displace oxygen and cause rapid suffocation. May form explosive mixtures with air.

Precautionary Statements

General	Read and follow all Safety Data Sheets (SDS) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Fusible plugs in top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F). Do not discharge at pressures above 15 psig (103 kPa). Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.
Prevention	P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response	P377 – Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381 – In case of leakage, eliminate all ignition sources.
Storage	P410 + P403 – Protect from sunlight. Store in a well-ventilated place.
Disposal	Not applicable.
Hazards not otherwise classified	In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.
Hazards identified when used	No known significant effects or critical hazards.

SECTION 3

Composition / Information on Ingredients

Chemical name	acetylene
Other means of identification	Ethyne; Ethine; Narcylen; C ₂ H ₂ ; Acetylen; UN 1001; Vinylene
Substance/mixture	Substance
Product code	001001

Ingredient name	%	Identifiers
Acetylene	100	CAS: 74-86-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8. Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4

First Aid Measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Description of Necessary First Aid Measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
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Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	As this product is a gas, refer to the inhalation section.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training.
Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.

Most Important Symptoms/Effects, Acute and Delayed

Inhalation	No known significant effects or critical hazards.
Ingestion	As this product is a gas, refer to the inhalation section.
Skin contact	Contact with rapidly expanding gas may cause burns or frostbite.
Eye contact	Contact with rapidly expanding gas may cause burns or frostbite.

Over-Exposure Signs/Symptoms

Skin contact	No specific data.
Ingestion	No specific data.
Inhalation	No specific data.
Eye contact	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary – Frostbite: Try to warm up the frozen tissues and seek medical attention. See toxicological information (Section 11).

SECTION 5

Fire-Fighting Measures

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide; carbon monoxide.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact the supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

SECTION 6

Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment.

Environmental precautions

Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Small spill

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

For non-emergency personnel – methods and materials for containment and cleaning up

Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel."

SECTION 7

Handling and Storage

Precautions for safe handling (protective measures)

Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52°C (125°F). Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

SECTION 8**Exposure Controls / Personal Protection****Appropriate engineering controls**

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Occupational Exposure Limits

Ingredient name	Exposure limits
Acetylene	California PEL for Chemical Contaminants (Table AC-1) (United States): Oxygen depletion [asphyxiant]. NIOSH REL (United States, 10/2020): CEIL 2500 ppm / CEIL 2662 mg/m ³ . ACGIH TLV (United States, 1/2025): Oxygen depletion [asphyxiant], Explosive potential.

Individual Protection Measures**Eye/face protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties.

Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Biological exposure indices	No exposure indices known.

SECTION 9

Physical and Chemical Properties

Physical state	Gas. [Compressed gas.]
Color	Colorless.
Odor	Mild. Ethereal.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	-81°C (-113.8°F)
Boiling point or initial boiling point and boiling range	Not available.
Flash point	Closed cup: -18.15°C (-0.67°F)
Evaporation rate	Not available.
Flammability (solid, gas)	Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials. Highly flammable in the presence of the following materials or conditions: heat.
Lower and upper explosive (flammable) limits	Lower: 2.5% Upper: 100%
Vapor pressure	635 (psig)
Relative vapor density	0.907 [Air = 1]
Relative density	Not applicable.
Solubility in water	1.2 g/l

Partition coefficient: n-octanol/water	0.37
Auto-ignition temperature	305°C (581°F)
Decomposition temperature	Not available.
Aerosol product	Not applicable.
Molecular weight	26.04 g/mole
Heat of combustion	-48,257,522 J/kg
Specific volume (ft³/lb)	14.7508
Gas density (lb/ft³)	0.0691
Flow time (ISO 2431)	Not available.

SECTION 10

Stability and Reactivity

Reactivity	May form explosive mixtures with air.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	Oxidizers.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	Under normal conditions of storage and use, hazardous polymerization will not occur.

SECTION 11

Toxicological Information

Information on Toxicological Effects

Acute toxicity – conclusion/summary	Not available.
Skin corrosion/irritation – conclusion/summary	Not available.
Serious eye damage/eye irritation – conclusion/summary	Not available.

Respiratory corrosion/irritation – conclusion/summary Not available.

Respiratory or skin sensitization – skin Not available.

Respiratory or skin sensitization – respiratory Not available.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics

Inhalation No known significant effects or critical hazards.

Ingestion As this product is a gas, refer to the inhalation section.

Skin contact Contact with rapidly expanding gas may cause burns or frostbite.

Eye contact Contact with rapidly expanding gas may cause burns or frostbite.

Delayed and Immediate Effects and Also Chronic Effects from Short and Long Term Exposure

Short term exposure – potential immediate effects Not available.

Short term exposure – potential delayed effects Not available.

Long term exposure – potential immediate effects Not available.

Long term exposure – potential delayed effects Not available.

Potential chronic health effects – general No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Reproductive toxicity No known significant effects or critical hazards.

Germ cell mutagenicity – conclusion/summary Not available.

Carcinogenicity – conclusion/summary Not available.

Reproductive toxicity – conclusion/summary Not available.

Specific target organ toxicity (single exposure) Not available.

Specific target organ toxicity (repeated exposure) Not available.

Aspiration hazard Not available.

Information on the likely routes of exposure Not available.

Numerical measures of toxicity – acute toxicity estimates N/A

SECTION 12

Ecological Information

Toxicity No known significant effects or critical hazards.

Persistence and degradability Not available.

Product/ingredient name	LogPow	BCF	Bioaccumulative potential
Acetylene	0.37	–	Low

Mobility in soil – soil/water partition coefficient logKoc: 0.51; Koc: 3.26837

Mobility in soil – conclusion/summary Not available.

Other adverse effects No known significant effects or critical hazards.

SECTION 13

Disposal Considerations

Disposal methods The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

SECTION 14

Transport Information

Regulatory Info	UN Number	Proper Shipping Name	Class	Packing Group
DOT	UN1001	Acetylene, dissolved	2.1	–

Regulatory Info	UN Number	Proper Shipping Name	Class	Packing Group
IMDG	UN1001	ACETYLENE, DISSOLVED	2.1	—
IATA	UN1001	Acetylene, dissolved	2.1	—
TDG	UN1001	ACETYLENE, DISSOLVED	2.1	—
Mexico	UN1001	ACETILENO DISUELTO	2.1	—

DOT – limited quantity	No.
DOT – packaging instruction	Exceptions: None. Non-bulk: 303. Bulk: None.
DOT – quantity limitation	Passenger aircraft/rail: Forbidden. Cargo aircraft: 15 kg.
DOT – special provisions	N86, N88
DOT – emergency schedules	F-D, S-U
IATA – quantity limitation	Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: 15 kg. Packaging instructions: 200. Limited Quantities – Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
IATA – special provisions	A1
TDG – classification	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13–2.17 (Class 2).
TDG – explosive limit and limited quantity index	0
TDG – passenger carrying vessel index	75
TDG – passenger carrying road or rail index	Forbidden
TDG – special provisions	38
Environmental hazards	Not available.
Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to IMO instruments	Not applicable.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

SECTION 15

Regulatory Information

United States – Federal Regulations

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)	Not listed
Clean Air Act Section 602 Class I Substances	Not listed
Clean Air Act Section 602 Class II Substances	Not listed
Clean Air Act (CAA) 112 regulated flammable substances	Acetylene
TSCA 12(b) – chemical export notification	Not applicable.
TSCA 8(a) CDR exempt/partial exemption	Not determined
DEA List I Chemicals (Precursor Chemicals)	Not listed
DEA List II Chemicals (Essential Chemicals)	Not listed
SARA 302/304 – RQ	Not applicable.
SARA 302/304 – composition/information on ingredients	No products were found.
SARA 311/312 classification	Refer to Section 2: Hazards Identification of this SDS for classification of substance.
State Regulations	
California Prop. 65	This material is listed. This product does not require a Safe Harbor warning under California Prop. 65.
Massachusetts	This material is listed.
New York	This material is not listed.
New Jersey	This material is listed.
Pennsylvania	This material is listed.
International Regulations	
Chemical Weapon Convention List Schedules I, II & III Chemicals	Not listed.
Montreal Protocol	Not listed.
Stockholm Convention on Persistent Organic Pollutants	Not listed.

Rotterdam Convention on Prior Informed Consent (PIC) Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals Not listed.

Inventory List

Australia	This material is listed or exempted.
Canada	This material is listed or exempted.
Japan	Japan inventory (CSCL): This material is listed or exempted. Japan inventory (ISHL): Not determined.
Republic of Korea	This material is listed or exempted.
New Zealand	This material is listed or exempted.
Philippines	This material is listed or exempted.
Taiwan	This material is listed or exempted.
Turkey	This material is listed or exempted.
United States	This material is active or exempted.
Thailand	This material is listed or exempted.
Eurasian Economic Union	Russian Federation inventory: This material is listed or exempted.
Chile	Not determined.
Colombia	Not determined.
China	This material is listed or exempted.
Viet Nam	This material is listed or exempted.

SECTION 16

Other Information

Date of issue/date of revision	7/29/2026
Date of previous issue	5/13/2026
Version	6.03

Hazard and Instability Classification Ratings

System	Health	Flammability	Physical Hazards / Instability	Special
HMIS® (U.S.A.)	1	4	2	–
NFPA 704 (U.S.A.)	0	4	3	–

Note: The instability hazard rating for acetylene, dissolved (stabilized acetylene) is 2.

Caution: HMIS® ratings are based on a 0–4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc. The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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Procedure Used to Derive the Classification

Classification	Justification
FLAMMABLE GASES – Category 1A	Regulatory data
GASES UNDER PRESSURE – Compressed gas	According to package

Key to Abbreviations

ATE = Acute Toxicity Estimate; BCF = Bioconcentration Factor; GHS = Globally Harmonized System of Classification and Labelling of Chemicals; IATA = International Air Transport Association; IBC = Intermediate Bulk Container; IMDG = International Maritime Dangerous Goods; LogPow = logarithm of the octanol/water partition coefficient; MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978; UN = United Nations.

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.