



Acetylene, dissolved
Safety Data Sheet 030118

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.
Date of issue: March 1, 2018

SECTION 1: Product and company identification

1.1. Product identifier

Product form : Substance
Name : Acetylene, dissolved
CAS No : 74-86-2
Formula : C2H2
Other means of identification : Acetylen, ethine, ethyne, narycylene

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use. Use as directed.

1.3. Detail of the supplier of the safety data sheet

Northern Gases and Supplies, Inc.
1426 S State Road 13
Pierceton, IN 46562
T 574-594-2551 F 574-594-2104
www.northerngases.com

1.4. Emergency telephone number

Emergency number : **Infotrac**
Day or Night
1-800-535-5053

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification
Flam. Gas 1 H220
Dissolved gas H280

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US)



Signal word (GHS-US) : DANGER

Hazard statements (GHS-US) : H220 - **EXTREMELY FLAMMABLE GAS**
H231 - MAY REACT EXPLOSIVELY EVEN IN THE ABSENCE OF AIR AT ELEVATED PRESSURE AND/OR TEMPERATURE
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR

Precautionary statements (GHS-US) : P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from Heat, Open flames, Sparks, Hot surfaces. - No Smoking
P271+P403 - Use and store only outdoors or in a well-ventilated place
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
P501 - Dispose of contents/container in accordance with container Supplier/owner instructions
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG13 - Fusible plugs in the top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F).
Do not discharge at pressures above 15 psig (103kPa)
CGA-PG06 - Close valve after each use and when empty

CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

2.3. Other hazards

Other hazards not contributing to the classification : For safety reasons, the acetylene is dissolved in acetone (CAS#67-64-1; Flam. Liq. 2, Eye Irrit. 2, STOT SE 3) in the gas container. Vapor of the solvent is carried away as impurity when the acetylene is extracted from the gas container. The concentration of the solvent vapor in the gas is lower than the concentration limits to change the classification of the acetylene.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substance

Name	Product identifier	%
Acetylene, dissolved (Main constituent)	(CAS No) 74-86-2	100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite areas with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : See below. See CGA Pamphlet SB-4, Handling Acetylene Cylinders Fire situations, for further information

5.2. Special hazards arising from the substance or mixture

Fire hazard : **EXTREMELY FLAMMABLE GAS.** If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.

Explosion hazard : **EXTREMELY FLAMMABLE GAS.** Forms explosive mixtures with air and oxidizing agents.

Reactivity	:	No reactivity hazard other than the effects described in sub-sections below.
5.3. Advice for firefighters		
Firefighting instructions	:	Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L-Fire Protection
Protection during firefighting	:	Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen
Special protective equipment for fire firefighters	:	Standard protective clothing and equipment (Self Contained Breathing Apparatus) for firefighters.
Specific methods	:	Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems Stop flow of product if safe to do so. Use water spray or fog to knock down fire fumes if possible. Continue water spray from protected position until container stays cool
Other information	:	Acetylene containers are provided with pressure relief devices designed to vent contents when exposed to elevated temperature

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Evacuate area. Ensure adequate ventilation. Stop leak if safe to do so.
6.1.1. For non-emergency personnel	:	No additional information available
6.1.2. For emergency responders	:	No additional information available

6.2. Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the
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container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store only where temperature will not exceed 125 °F (52°C). Post "No Smoking/No Open Flames" signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g, NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16
- OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:**
When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventative device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.
- Storage area : Acetylene trailers are designed and intended for outdoor use. Acetylene storage in excess of 2.500 cu ft (70.79 cubic meters) is prohibited in buildings and other occupancies.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acetylene, dissolved (74-86-2)							
ACGIH	Not established						
USA OSHA	Not established						

8.2. Exposure controls

- Appropriate engineering controls : An explosion-proof local exhaust system or a mechanical system is acceptable if it can prevent oxygen deficiency and keep hazardous fumes and gases below all applicable exposure limits in the worker's breathing area. During welding, ensure that there is adequate ventilation to keep worker exposure below applicable limits for fumes, gases, and other by-products of welding. Do not breathe fumes or gases. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes, or may cause other similar discomfort.
- Eye protection : Wear safety glasses with side shields.
- Skin and body protection : As needed for welding, wear hand, head, and body protection to help prevent injury from radiation and sparks. (See ANSI Z49.1.) At a minimum, this includes welder's gloves and protective goggles and may include arm protectors, aprons, hats, and shoulder protection as well as substantial clothing.
- Respiratory protection : When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134,

ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA)	
Thermal hazard protection	: Wear cold insulating gloves when transfilling or breaking transfer connections.
Environmental exposure controls	: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment
Other information	: Consider the use of flame resistant anti-static safety clothing. Wear leather safety gloves and safety shoes when handling cylinders

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless, odorless gas.
Molecular mass	: 26 g/mol
Color	: Colorless.
Odor	: Garlic like. Poor warning properties at low concentrations.
Odor threshold	: No data available
pH	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable
Melting point	: -80.8°C (-113.4°F)
Freezing point	: No data available
Boiling point	: -84°C (-119.2°F)
Flash point	: -17°C (1.4°F)
Critical temperature	: 36°C (97°F)
Auto-ignition temperature	: 305°C (581°F)
Decomposition temperature	: 635°C (1175°F)
Flammability (solid, gas)	: 2.5-100 vol %
Vapor pressure	: 44 bar (623 psig)
Critical pressure	: 61.38 bar (875 psig)
Relative vapor density at 20°C	: No data available
Relative density	: Not applicable
Density	: 0.0012 g/cm ³ (at 0°C)
Relative gas density	: 0.9
Solubility	: Water: 1185 mg/l
Log Pow	: 0.37
Log Kow	: Not applicable
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: Not applicable
Oxidizing properties	: None
Explosion limits	: No data available

9.2. Other information

Sublimation point	: -83.3°C
Gas group	: Dissolved gas

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Dissolved in a solvent supported in a porous mass. Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

May react explosively even in the absence of air. May decompose

violently at high temperature and/or pressure or in the presence of a catalyst. Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

High temperature. High pressure. Keep away from heat/sparks/open flames/hot surfaces. -No smoking.

10.5. Incompatible materials

Forms explosive acetylides with copper, silver and mercury. Do not use alloys containing more than 65% copper. Air, Oxidizer. Do not use alloys containing more than 43% silver.

10.6. Hazardous decomposition products

Thermal decomposition or burning may produce carbon monoxide, carbon dioxide, and hydrogen. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction, or oxidation of the material being worked.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	Not classified
Skin corrosion/irritation	:	Not classified pH: Not applicable
Serious eye damage/irritation	:	Not classified pH: Not applicable
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology-general : No known ecological damage caused by this product

12.2. Persistence and degradability

Acetylene, dissolved (74-86-2)		
Persistence and degradability	Will rapidly degrade by indirect photolysis in air.	
	Will not undergo hydrolysis.	

12.3. Bioaccumulative potential

Acetylene, dissolved (74-86-2)	
Log Pow	0.37
Log Kow	Not applicable.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow <4)
	Refer to section 9.

12.4. Mobility in soil

Acetylene, dissolved (74-86-2)	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

12.5. Other adverse effects

Effects on ozone layer	:	No known effects from this product
Effects on the global warming	:	No known effects from this product

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements

SECTION 14: Transport information

In accordance with DOT

Transport document description	:	UN1001 Acetylene, dissolved, 2.1
UN-No. (DOT)	:	UN1001
Proper Shipping Name (DOT)	:	Acetylene, dissolved
Hazard labels (DOT)	:	2.1-Flammable gas



DOT Special Provisions (49 CFR 172.102)	:	N86-UN pressure receptacles made of aluminum alloy are not authorized N88-Any metal part of a UN pressure receptacle in contact with the contents may not contain more than 65% copper, with a tolerance of 1%
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Additional information

Emergency Response Guide (ERG) Number	:	116 (UN1001)
Other information	:	No supplementary information available.
Special transport precautions	:	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: <ul style="list-style-type: none"> - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG)	:	1001
Proper Shipping Name (IMDG)	:	Acetylene, dissolved
Class (IMDG)	:	2- Gases
MFAG-No	:	116

Air transport

UN-No. (IATA)	:	1001
Proper Shipping Name (IATA)	:	Acetylene, dissolved
Class (IATA)	:	2
Civil Aeronautics Law	:	Gases under pressure/Gases flammable under pressure

SECTION 15: Regulatory information

15.1. US Federal regulations

Acetylene, dissolved (74-86-2)

Listed on the United State TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Reactive hazard Fire hazard
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All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.
This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

SECTION 16: Other information

Other information	:	When using this product in welding and cutting, read and understand the manufacturer's instructions and the precautionary label on the product. For a detailed treatment, get ANSI Z49.1 Safety in Welding, Cutting and Allied Processes, published by the American Welding Society (AWS), www.aws.org . Order AWS documents from Global Engineering Documents, global.ihs.com . Arcs and sparks can ignite combustible material. Prevent fires. Refer to NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hotwork. Do not strike an arc on the
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container. The defect produced by an arc burn may lead to container rupture.

Fumes and gases produced during welding and cutting processes can be dangerous to your health and may cause serious lung disease. **KEEP YOUR HEAD OUT OF FUMES. DO NOT BREATHE FUMES AND GASES** Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes; or may cause other similar discomfort. Contaminants in the air may add to the hazard of fumes and gases.

When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product Before using any plastics, confirm their compatibility with this product.

Northern Gases asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents and and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Northern Gases and Supplies Inc. it is the user's obligation to determine the conditions of safe use of the product

Northern Gases SDSs are furnished on sale or delivery by Northern Gases or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Northern Gases sales representative, local distributor, or supplier. If you have questions regarding Northern Gases SDSs, would like the document number and date of the latest SDS, or would like the names of the Northern Gases supplies in your area, phone or write Northern Gases at 1-800-474-9353 Address: PO Box 417 Pierceton, IN 46562

NFPA health hazard	:	0-Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials
NFPA fire hazard	:	4-Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
NFPA reactivity	:	2-Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.
HMIS III Rating		
Health	:	2 Moderate Hazard-Temporary or minor injury may occur
Flammability	:	4 Severe Hazard
Physical	:	2 Moderate Hazard



This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Information update March 1, 2018