



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA HCS 2024

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Revision Number 8.01

1. Identification

Product identifier

Product Name ACETYLENE, DISSOLVED

Other means of identification

Synonyms ACETYLENE; ETHYNE; WELDING GAS; ACETYLEN; ETHINE; NARCYLEN; VINYLENE;
UN 1001; C2H2;

Other information Classification determined in accordance with Compressed Gas Association standards.

Recommended use of the chemical and restrictions on use

Recommended use Industrial and Specialty Gas Applications

Restrictions on use None known

Details of the supplier of the safety data sheet

Manufacturer Address

Nippon Sanso Matheson, Inc.
909 Lake Carolyn Parkway
Suite 1100
Irving, TX 75039
General Information: 1-800-416-2505

Emergency telephone number

Emergency telephone CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

2. Hazard(s) identification

Classification of the substance or mixture

Flammable gases	Category 1A
Gases under pressure	Dissolved gas
Simple asphyxiants	Yes

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements

Danger

**Hazard statements**

Extremely flammable gas.

Contains gas under pressure; may explode if heated.

May displace oxygen and cause rapid suffocation.

Precautionary Statements - Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

In case of leakage, eliminate all ignition sources.

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Precautionary Statements - Storage

Store in a well-ventilated place.

Protect from sunlight. Store in a well-ventilated place.

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available.

Other information

Rapid release of compressed gas may cause frostbite.

3. Composition/information on ingredients**Substance**

Chemical Family Hydrocarbons, aliphatic

Chemical name	CAS No.	Weight-%	Trade secret
Acetylene	74-86-2	100	-

4. First-aid measures**Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Unconscious persons should be moved to an uncontaminated area and, as necessary, given artificial resuscitation and supplemental oxygen. Get immediate medical attention.
Eye contact	In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	DO NOT USE HOT WATER. Get immediate medical attention. If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). If warm water is not available, gently wrap affected parts in blankets.
Ingestion	Get immediate medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Frostbite. Suffocation.

Effects of Exposure None known.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. For inhalation, consider oxygen.

5. Fire-fighting measures

Suitable Extinguishing Media Dry chemical or CO₂.
Large Fire Water spray or fog. Move containers from fire area if you can do it without risk.

Unsuitable extinguishing media DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. Do not direct water at source of leak or safety devices; icing may occur.

Specific hazards arising from the chemical Severe fire hazard. Severe explosion hazard. Cylinders may rupture under extreme heat. Damaged cylinders should be handled only by specialists. Containers may explode when heated. Ruptured cylinders may rocket. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

Explosion data

Sensitivity to mechanical impact Yes.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Move containers from fire area if you can do it without risk. Use personal protective equipment. Cool containers with flooding quantities of water until well after fire is out. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Evacuate area and fight fire from a safe distance. Stay upwind and keep out of low areas. Stay away from the ends of tanks. 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, evacuation radius: 1600 meters (1 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers / tanks with water spray. Avoid inhalation of material or combustion by-products.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Contents under pressure. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Ensure adequate ventilation. Evacuate personnel to safe areas. Wear personal protective clothing and equipment, see Section 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Keep unnecessary and unprotected personnel away from spillage. Ventilate the area. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Stay upwind and keep out of low areas.

Methods for cleaning up Eliminate all ignition sources if safe to do so. Use non-sparking tools. Damaged cylinders

should be handled only by specialists.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Contents under pressure. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Ensure adequate ventilation. Ground and bond all lines and equipment associated with product system. All equipment should be non-sparking and explosion proof. Avoid breathing gas. Wear personal protective equipment. Close valve after each use and when empty.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from sunlight. Store locked up. Store in accordance with local regulations. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. For additional and specific safe practices consult the following Compressed Gas Association (CGA) publications: P-1 "Safe Handling of Compressed Gases in Cylinders", AV-1 "Safe Handling and Storage of Compressed Gases", and "Compressed Gas Handbook". Keep away from Incompatible materials.

8. Exposure controls/personal protection

Control Parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Acetylene 74-86-2	: See Appendix F: Minimal Oxygen Content, explosion hazard Sa	-	Ceiling: 2500 ppm Ceiling: 2662 mg/m ³

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls

Use explosion-proof ventilating equipment. Apply technical measures to comply with the occupational exposure limits. Provide local exhaust ventilation. Use a back flow preventive device in the piping. Use only equipment of compatible materials on construction. Use only with equipment rated for cylinder pressure.

Individual protection measures, such as personal protective equipment

Eye/face protection	For the gas: Eye protection not required, but recommended. For the liquid: Chemical safety goggles. Contact lenses should not be worn. Eyewash stations.
Hand protection	For the gas: Protective gloves are not required, but recommended. For the liquid: Wear insulated gloves.
Skin and body protection	For the gas: Protective clothing is not required, but recommended. For the liquid: Wear appropriate protective, cold insulating clothing.
Respiratory protection	Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any air-purifying respirator with a full facepiece and a dust or mist filter. Any powered, air-purifying respirator with a dust and mist filter. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Dissolved gas
Physical state	Gas
Color	Colorless
Odor (includes odor threshold)	sweet odor, garlic odor

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	-84 °C / -119 °F	Sublimation point
Boiling point (or initial boiling point or boiling range)		No data available
Flammability		Flammable gas
Flammability Limit in Air		
Upper flammability or explosive limits	100%	
Lower flammability or explosive limits	2.5%	
Flash point		No data available
Autoignition temperature	305 °C / 581 °F	
Decomposition temperature		No data available
SADT (°C)		No data available
pH		No data available
pH (as aqueous solution)		No data available
Kinematic viscosity		No data available
Dynamic viscosity	0.01 cp	
Solubility	Soluble in: Acetone, Benzene, Chloroform, Ether	
Water solubility	0.94 %	@ 25 °C
Partition coefficient n-octanol/water (log value)		No data available
Vapor pressure (includes evaporation rate)	760 mmHg	@ -84 °C
Evaporation rate		No data available
Density and/or relative density	1.1747 g/L	@ 0 °C
Bulk density		No data available
Liquid Density		No data available
Relative vapor density	0.9	(air = 1)
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available

Other information

Molecular formula	H-C-C-H
Molecular weight	26.04
VOC content	No information available
Softening point	No information available
Henry's Law Constant	0.0217 atm-m ³ /mole

Information with regard to physical hazard classes**Explosives**

Explosive properties	No information available
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Gases under pressure

Critical Temperature °C	35.2 °C
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Oxidizing properties

No information available

Sensitivity to mechanical impact

Yes

10. Stability and reactivity

Reactivity	May decompose on contact with heat.
Chemical stability	May decompose violently on heating. Containers 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	Keep away from open flames, hot surfaces and sources of ignition. Incompatible materials. Protect from physical damage. Containers may rupture or explode if exposed to heat.
Incompatible materials	Metals, Halogens, Oxidizing materials, Metal carbide, Reducing agents, Halocarbons.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information**Information on likely routes of exposure****Product Information**

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Inhalation

Suffocation. Nausea. Vomiting. Chest pain. Headache. Drowsiness. Dizziness. Incoordination. Bluish skin color. Coma. Lung congestion.

Eye contact

Contact with product may cause frostbite.

Skin contact

Contact with product may cause frostbite.

Ingestion

Ingestion of gas unlikely.

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms**

Frostbite. Suffocation.

Acute toxicity

No information available.

Numerical measures of toxicity

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

No information available.

Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	Not applicable.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity	Avoid release to the environment.
Aquatic ecotoxicity	No information available.

Persistence and degradability No information available.

Bioaccumulative potential

Chemical name	Partition coefficient	Bioconcentration factor (BCF)	Trophic magnification factor (TMF)
Acetylene	0.37	-	-

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products	Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.
Contaminated packaging	Do not reuse empty containers.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. Transport information

DOT

Proper shipping name	Acetylene, dissolved
Transport hazard class(es)	2.1
Special Provisions	N86, N88
DOT Marine Pollutant	NP
Description	UN1001, Acetylene, dissolved, 2.1
Emergency Response Guide Number	116

IATA

	Forbidden for transport by Passenger Air.
UN proper shipping name	Acetylene, dissolved
Transport hazard class(es)	2.1
Environmental hazards	No
Special Provisions	A1
ERG Code	10L
Description	UN1001, Acetylene, dissolved, 2.1

IMDG

UN number or ID number	UN1001
UN proper shipping name	Acetylene, dissolved
Transport hazard class(es)	2.1
Marine pollutant indicator	NP
EmS-No.	<u>F-D, S-U</u>
Underlined EMS codes indicate additional advice is given in the emergency response procedures	
Description	UN1001, Acetylene, dissolved, 2.1

15. Regulatory information

International Inventories

Contact supplier for inventory compliance status

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CAA (Clean Air Act)

This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive

Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Acetylene 74-86-2	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. Other information

NFPA	Health hazards 0	Flammability 4	Instability 2	Special hazards SA
HMIS	Health hazards 0	Flammability 4	Physical hazards 3	Personal protection -

Key or legend to abbreviations and acronyms used in the safety data sheet

List may include phrases which are not applicable to this product

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	U.S. Environmental Protection Agency

GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NTP	National Toxicology Program (United States)
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
As	Allergenic substance
DS	Dermal Sensitizer
Ot	Ototoxicant
pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitizer
RS	Respiratory Sensitizer
S	Sensitizer

poS	Sensitizer - capable of causing occupational asthma
Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption

Key literature references and sources for data used to compile the SDS

U.S. Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
U.S. Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
United Nations World Health Organization (WHO)

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Revision Note Company logo. Company Name. Company contact information.

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End of Safety Data Sheet