

MATERIAL SAFETY DATA SHEET

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1. CHEMICAL PRODUCT

PRODUCT NAME: **ACETYLENE**

SYNONYMS: **None**

2. COMPOSITION, INFORMATION ON INGREDIENTS

Exposure Limits (PPM)

<u>Ingredient Name</u>	<u>Formula</u>	<u>CAS #</u>	<u>Concentration</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>MAC</u>	<u>Other STEL</u>
ACETYLENE	C2H2	74-86-2	99+%	S/A	S/A	NE	S/A

Note: NE = NONE ESTABLISHED

S/A = SIMPLE ASPHYXIAN

3. HAZARD IDENTIFICATION

* * * EMERGENCY OVERVIEW * * *

Flammable gas under pressure.

Can form explosive mixtures with air.

Fusible plugs in top, bottom, or valve melt at 208-220 F (98-104 C).

Do not discharge at pressures above 15 psig.

Acetylene cylinders are filled with a porous material containing acetone (CAS 67-64-1) into which the **acetylene** is dissolved.

ACGIH has established a TLV-TWA of 500 ppm for acetone.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: **Inhalation**

ACUTE EFFECTS: Material acts as a simple asphyxiant by displacing air necessary for life. Symptoms include rapid respiration, muscular incoordination, fatigue, dizziness, nausea, vomiting, unconsciousness, and death. May act as an anesthetic. Symptoms of exposure may include mild gastric symptoms, mental confusion, emotional instability and myocardial sensitization.

CHRONIC EFFECTS: **Bronchitis, stomach ulcers.**

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US ONLY):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - No

4. FIRST AID MEASURES

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

EYE CONTACT: Immediately flush with copious amounts of water for at least 15 minutes.

SKIN CONTACT: None

INGESTION: None

IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN

NOTE TO PHYSICIAN: None

5. FIRE FIGHTING MEASURES

FLASH POINT: -17.78 deg.C

AUTOIGNITION TEMPERATURE: 335 deg.C

FLAMMABLE LIMITS: Vol.%

LOWER: 2.5%

UPPER: 80%

EXTINGUISHING MEDIA: Carbon dioxide, water spray, or dry chemical.

SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT: Wear self-contained breathing apparatus and full protective clothing. Stay upwind. If possible, stop the product flow. Keep fire exposed cylinders cool with water spray. Extinguish only if flow can be stopped.

HAZARDOUS COMBUSTION PRODUCTS: Toxic carbon monoxide may be given off during combustion.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Moderate hazard when exposed to heat or flame. Cylinder rupture may occur under fire conditions. At high pressure, may decompose explosively. Emits toxic fumes under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

CLEAN UP PROCEDURES: Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off source if possible and remove source of heat. Use non-sparking tools.

SPECIALIZED EQUIPMENT: None

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Discharge at less than 15 psig. Use only **acetylene** regulators. Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in well ventilated areas. Keep valve protection cap on cylinders when not in use. Store away from heat, flame, and sparks.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide adequate general and local exhaust ventilation to maintain concentrations below exposure limits, flammable limits, and to avoid asphyxiation.

EYE / FACE PROTECTION: Safety glasses

SKIN PROTECTION: None

RESPIRATORY PROTECTION: In case of leakage, use self-contained breathing apparatus.

OTHER PROTECTIVE EQUIPMENT: Safety shoes when handling cylinders.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Ethereal odor

PHYSICAL PRESSURE: Gas

VAPOR PRESSURE: @20 deg.C: 43.21 atm

VAPOR DENSITY (AIR=1): 0.91

BOILING POINT (C): -84

SOLUBILITY IN WATER: @25 deg.C: 0.94%

SPECIFIC GRAVITY (H₂O=1): Gas

EVAPORATION RATE: Gas

ODOR THRESHOLD: N/Av

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal storage conditions. Compound is stable in closed containers at room temperature.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Copper, copper salts, brass, mercury salts, potassium, silver, silver salts, halogens, RbH, CsH, HNO₃, NaH, and oxidizers.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Toxic carbon monoxide.

11. TOXICOLOGICAL INFORMATION

LETHAL CONCENTRATION (LC50): None Established

LETHAL DOSE 50 (LD50): N/Ap

TERATOGENICITY: N/Ap

REPRODUCTIVE EFFECTS: N/Ap

MUTAGENICITY: N/Ap

12. ECOLOGICAL INFORMATION

No adverse ecological effects are expected.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Return cylinders to supplier with any valve outlet plugs or caps secured and valve protection cap in place.

14. TRANSPORT INFORMATION

CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: **Acetylene**, Dissolved
HAZARD CLASS: 2.1 (flammable gas)
IDENTIFICATION NUMBER: UN1001
REPORTABLE QUANTITIES: None
LABELING: **FLAMMABLE GAS**

ADR / RID (EU Only): Class 2, 4f

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

15. REGULATORY INFORMATION

OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for this material is 10,000 lbs.

EU NUMBER: 200-816-9

NUMBER IN ANNEX 1 OF DIR 67/548: Material is listed in annex 1.

EU CLASSIFICATION: Hazardous substance.

R: 5-6-12

S: 9-16-26

16. OTHER INFORMATION

OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS: N/Ap - Not Applicable N/Av - Not Available SA - Simple Asphyxiant NE - None Established

Use proper connections; do not use adapters. Do not force fit!!

DISCLAIMER

The information and recommendations in this Material Safety Data Sheet relate only to the specific material mentioned herein and do not relate to use otherwise ie.in combination with any other material or in any process.

The information and recommendations herein are taken from our extensive experiences and the data contained in recognized references and believed by us to be true. Refrigeration group of companies make no warranties either expressed or implied with respect there to and assume no liability in connection with the use of such information and recommendation.