

# Material Safety Data Sheet : Acetylene

Producer – Takoradi Gas Ltd Tel: 031-21159 Emergency – 0244-330-594

## Section 1 : Identificaton

<b>Name :</b>	Acetylene	<b>Classification :</b>	Organic gas
<b>Synonyms :</b>	Ethyne, Ethine	<b>Formula :</b>	C <sub>2</sub> H <sub>2</sub>
<b>CAS No. :</b>	74-86-2	<b>UN No. :</b>	1001

## Section 2 : Regulated Information

<b>Shipping Name :</b>	Acetylene	<b>HazChem Code :</b>	2 S E
<b>Codes / Label :</b>	Flammable, Class2	<b>Hazardous Waste ID :</b>	17

## Section 3 : Physical Chemical Data

<b>Boiling Point :</b>	-84degC	<b>Physical State:</b>	Gas
<b>Vapour Pressure :</b>	44.9 bar	<b>Melting/FreezingPoint :</b>	-81.8degC
<b>Odour :</b>	Garlic like odour	<b>Vapour Density :</b>	0.91
<b>Solubility in Water :</b>	30	<b>Solubility in Others :</b>	Very soluble in alcohol almost miscible with ethene
<b>Specific Gravity :</b>	0.613	<b>Appearance :</b>	Colourless
<b>pH :</b>	Neutral	<b>Heat of Combustion:</b>	46300000
<b>Heat of Vapourisation :</b>	801961	<b>Density :</b>	1.11
<b>Liquid Heat Capacity :</b>	1576	<b>Boiling Temperature :</b>	178

## Section 4 : Fire / Explosion Hazard Data

<b>TDG Flammability :</b>	2	<b>UEL :</b>	82
<b>LEL :</b>	2.5	<b>UEL Flash Point :</b>	
<b>LEL Flash Point :</b>		<b>Explosion sensitivity to impact :</b>	Stable
<b>Autoignition Temperature :</b>	305degC	<b>Hazardous Combustion Products :</b>	
<b>Explosion sensitivity to Static Electricity :</b>	Explodes	<b>Flammable Material :</b>	Flammable
<b>Combustible Liquid :</b>	No	<b>Explosive Material :</b>	Explosive
<b>Hazardous Ploymerization :</b>	Will not occur	<b>Pyrophoric Material :</b>	No
<b>Oxidiser :</b>	No	<b>Corrosive Material :</b>	No
<b>Organic Peroxide :</b>	No	<b>Others :</b>	

### Section 5 : Reactivity Data

<b>Chemical Stability :</b>	Stable	<b>Reactivity :</b>	Reacts vigorously with oxidising agents. Also reacts vigorously with Trifluoromethyl hypofluorite
<b>Incompatibility with other materials :</b>	With brass, Copper salts, Copper carbide, Powdered Co, Hg, Ag, Ag Salts, RbH, CsH, Halogens, HNO, NaOH, Oxidants	<b>Hazardous Reaction Products :</b>	Reacts with Copper to form the explosive Copper acetylide

### Section 6 : Health Hazard Data

<b>Toxicity :</b>	Toxic	<b>Routes of Entry :</b>	Inhalation
<b>Effects of Exposure / Symptoms :</b>	Inhalation causes headache, dizziness and loss of consciousness. Death from asphyxiation may occur if oxygen content of the air is severely reduced by dilution with acetylene		
<b>Emergency Treatments :</b>	Inhalation: Remove the victim to fresh area and keep him warm and quiet. Recovery is usually rapid. If breathing has stopped give artificial respiration and administer oxygen if necessary. Seek medical aid.		
<b>LC50:</b>	<b>5540 (ppm)</b>	<b>13000 (mg/m<sup>3</sup>)</b>	<b>IDLH :</b> 500 (ppm) 1050 (mg/m <sup>3</sup> )
<b>Permissible Exposure Limit :</b>	25 (ppm)	18 (mg/m <sup>3</sup> )	<b>Odour Threshold :</b> 46.8 (ppm) 33 (mg/m <sup>3</sup> )
<b>TLV (ACGIH) :</b>	25 (ppm)	18 (mg/m <sup>3</sup> )	<b>NFPA Hazard Signals :</b>

<b>Health :</b>	1
<b>Flammability :</b>	4
<b>Reactivity :</b>	3
<b>Special :</b>	

### Section 7 : Preventive Measures

<b>Personal Protective Equipment :</b>	Avoid exposure to gas. Provide air-supply respirator in the area of high concentrations. Avoid all sources of ignition. Provide leather hand-gloves, apron gas mask
<b>Handling &amp; Storage Precautions :</b>	Store acetylene cylinders in a cool, well ventilated area away from heat of flame and oxidising agents.

### Section 8 : Emergency / First Aid Measures

<b>Fire Extinguishing Media :</b>	CO <sub>2</sub> water spray, Dry chemical powder
<b>Special Procedure :</b>	Keep the container cool by spraying water if exposed to heat of flame
<b>Unusual Hazards :</b>	Gas is suffocating
<b>Exposure :</b>	
<b>First Aid Measures :</b>	Inhalation: Remove the victim to fresh air area, provide artificial respiration or oxygen, if needed. Skin: Remove the contaminated clothes and wash the affected area with plenty of water and soap. Eyes Flush with plenty of water for 1.5 mins. Seek medical aid

**Antidotes /****Dosages :****Spills :**

**Steps to be taken :** Contain leaking liquid or earth, allow to evaporate, Dilute the vapours with plenty of water

**Waste Disposal Method :** Seal all waste in vapour tight plastic bags for eventual disposal

**Additional Information**

A simple ASPHYANT. In general practice, Agerylene does not constitute a serious toxic hazard. It is a very dangerous fire hazard when exposed to heat, flame or oxidising materials. At high pressures and at moderate temperatures and in the absence of air, it has been known to decompose explosively. When mixed with O<sub>2</sub> in proportion of 40% or more it acts as a narcotic. It has been used as an anesthetic. 10% air produces slight intoxication. 20% produces staggering gait, 30% produces general non-co-ordinate. 33% leads to unconsciousness in 7 mins. Up to 80% causes complete anesthesia, increased blood pressure, narcosis and simulated respiration. LCL,, (mammal): 500000ppm/5M