Section 1 – Product and Company Identification

1.1 GHS Product Identifier : 1-Buten-3-yne in Xylenes Solution

Other means of identification : Vinyl Acetylene in Xylenes Solution

Product Number : 315273

Chemical Formula : Solution

CAS Number : Solution

EC Number : Solution.

1.2 Recommended use : Laboratory chemicals, Manufacture of substances

1.3 Supplier's detail : Wiley Companies
1245 South 6th Street
Coshocton, Ohio 43812.
(740) 622-0755.

1.4 Emergency Telephone number : (800) 633-8253.
International number : (801) 629-0667.

Section 2 – Hazards Identification

2.1 GHS Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3)
Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Skin irritation (Category 2)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 2)

2.2 GHS Label elements, including precautionary statements
Pictogram

Signal word Danger

Hazard statement(s)

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H312 + H332	Harmful in contact with skin or if inhaled.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P312	Call a POISON CENTER or doctor/ physician if you feel unwell.
P362	Take off contaminated clothing.
P391	Collect spillage.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified or not covered by GHS

1-Buten-3-yne in pure form may form peroxides in long term storage and may polymerize.

Section 3 - Composition / Information on Ingredients

Substance/Mixture

Chemical name	: 1-Buten-3-yne in Xylenes Solution.
Synonyms	: Vinyl Acetylene in Xylenes Solution.
Formula	: Solution.
CAS number	: Solution.

EC number : Solution.

Hazardous components

Component	Classification	Concentration
1-Buten-3-yne	No data available.	<40%
Xylenes	Flammable liquid (Category 3) Acute toxic (Category 4) Skin irritant (Category 2) Aquatic acute (Category 2) Aquatic chronic (Category 2)	>60%
Ethyl Benzene	Flammable liquid (Category 2) Acute toxic (Category 4) Aquatic acute (Category 2) Aquatic chronic (Category 2)	<10%

Section 4 - First Aid Measures

4.1 Description of necessary first aid measures

If inhaled
Remove person to fresh air. Consult a physician if necessary.
If breathing is stopped, administer artificial respiration if trained to do so.

In case of skin contact
Flush with copious amounts of water for at least 15 minutes. Consult a physician if necessary.

In case of eye contact
Flush with copious amounts of water for at least 15 minutes. Consult a physician if necessary.

If ingested
Do NOT induce vomiting.
Rinse mouth out with water.
Never give liquid to an unconscious person.
Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
Liver – Irregularities – Based upon human evidence
Stomach – Irregularities – Based upon human evidence.
Stomach – Irregularities – Based upon human evidence (Ethyl Benzene).

4.3 Indication of immediate medical attention and special treatment needed, if necessary
No data available.

Section 5 – Fire Fighting Measure

5.1 Extinguishing media
Suitable extinguishing media
Water spray,
Alcohol resistant foam,
Carbon dioxide,
Dry chemical.

Unsuitable extinguishing media
None.

5.2 Specific hazards arising from the chemical
Carbon oxides.

5.3 Special protective equipment for fire fighters
Cool vessels and containers with sprayed water.
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH for firefighters (approved or equivalent) and full protective gear.

5.4 Special precautions for fire fighters
Containers may explode when heated.
Vapours can accumulate in low areas.
Evacuate all personnel from the danger area.
Remove ignition sources if safe to do so.
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 release point.

Section 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures.
Use personal protective equipment.
Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe.
Avoid breathing vapours, mist or gas.
Prevent further leakage or spillage if safe to do so.

Ensure adequate ventilation, especially in confined areas.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Prevent contamination of soil, drains and surface water
Take up residue with absorbent material and dispose of in accordance with all local, state and federal regulations.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.
Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and materials for containment and cleaning up

Utilize non-sparking tools
For large spills, dike far ahead of liquid spill for later disposal.
Cover liquid spill with sand, earth or other non-combustible absorbent material.
Pump up spilled material and transfer to properly labeled containers.
Take up residue with absorbent material and dispose of in accordance with all local, state and federal regulations.

Section 7 – Handling and Storage

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment.
Avoid contact with skin, eyes and clothing.
Avoid vapour inhalation.
Wash contaminated clothing before reuse.
Do not eat, drink or smoke when using this product.
Ensure good ventilation and local exhaust extraction in work place.
Keep away from source of ignition.
Use only non-sparking tools.
Use only explosion-proof equipment.
Take measures to prevent buildup of electrostatic charge.
Keep containers tightly closed when not in use

7.2 Conditions for safe storage, including any incompatibilities

Store material in D.O.T. approved containers.
Follow all applicable local, state, and federal regulations.
Store in a cool, dry, well-ventilated place, in securely closed original container.
Add stabilizer to prevent peroxide formation.

Section 8 – Exposure Controls / Personal Protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
1-Buten-3-yne	No data available.
Xylenes	OSHA TWA: 100 ppm ACGIH TWA: 100 ppm ACGIH STEL: 150 ppm
Ethyl Benzene	OSHA TWA: 100 ppm ACGIH TWA: 100 ppm NIOSH TWA: 100 ppm

8.2 Appropriate engineering controls

Engineering Controls:
Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.
Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs.

8.3 Individual protection measures

Administrative Controls:

Handle in accordance with good industrial hygiene and safety practice.
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 (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Wear protective eyeglasses or chemical safety goggles, per OSHA eye and face protection regulations (29 CFR 1910.133).
Wear face shield and safety glasses as approved under appropriate government standards (NIOSH or EN 166).
Wear chemically protective gloves.

Wear a chemically protective suit.
Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.
Launder contaminated work clothes before reuse.

Section 9 – Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	:	Liquid.
Odour	:	Clear liquid with a distinct, mild acetylenic odor.
Odour Threshold	:	No data available.
pH	:	No data available.
Melting point/freezing point	:	No data available.
Initial boiling point and boiling point range	:	5 ° C @ 757 mm Hg (vinyl acetylene) – lit.
Flash point	:	< 5 ° C (vinyl acetylene) – lit.
Evaporation rate	:	No data available.
Flammability (solid, gas)	:	No data available.
Upper/lower flammability Or explosive limits	:	LEL @ 2% V, UEL @ no data available.
Vapour pressure	:	1350 mm Hg at 25 ° C (vinyl acetylene) – lit.
Vapour density	:	1.8 (vinyl acetylene) – lit.
Relative density	:	No data available.
Water solubility	:	1.79 g/L @ 30 ° C (vinyl acetylene) – lit.
Partition coefficient: n-octanol/water	:	No data available.
Auto-ignition Temperature	:	No data available.
Decomposition Temperature	:	No data available.
Viscosity	:	No data available.
Molecular weight	:	No data available.

Section 10 – Stability and Reactivity

10.1 Reactivity
No data available.

10.2 Chemical stability
This material in liquid form is stable at room temperature in closed containers under normal storage and handling conditions.
Avoid exposure to air any longer than necessary so as to prevent peroxide formation.

10.3 Possibility of hazardous reactions
Vapours may form explosive mixture in air.

10.4 Conditions to avoid
Avoid contact with strong oxidizing agents, strong acids or bases, peroxides, and strong reducing agents.
Heat, flames and other sources of ignition.
Take measures to prevent buildup of electrostatic charge.

10.5 Incompatible materials
Strong oxidizing agents.
Peroxides, strong bases and acids, strong reducing agents.

10.6 Hazardous decomposition products
Thermal oxidative decomposition of this material can produce carbon monoxide and carbon dioxide.

Section 11 – Toxicological Information

11.1 Information on toxicological effects

Acute toxicity
Xylenes: Rat, Oral, LD50: 1,590 mg/kg.
Xylenes: Rat, Inhalation, LC50: 3,907 ppm / 6H.
Xylenes: Rabbit, Dermal, LD50: 43 gm/kg.
1-Buten-3-yne: Mouse, Inhalation, LC50: 97,200 mg/m3 / 2H.

Skin corrosion/irritation
No data available.

Serious eye damage/eye irritation
No data available.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity
No data available.

Carcinogenicity

IARC : 2B – Group 2B: Possibly carcinogenic to humans (Ethylbenzene)

ACGIH : A3 – Confirmed animal carcinogen with unknown relevance to humans (Ethylbenzene)

NTP : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA : No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available.

Specific target organ toxicity – single exposure
No data available.

Specific target organ toxicity – repeated exposure
No data available.

Aspiration hazard
No data available.

Information on the likely routes of exposure
Inhalation, Skin contact, ingestion.

Symptoms related to the physical, chemical and toxicological characteristics
CNS depression,

Delayed and immediate effects and also chronic effects from short and long-term exposure
No data available.

Numeric measures of toxicity
No data available.

Section 12 – Ecological Information

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Other adverse effects
Toxic to aquatic life.
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 – Disposal Considerations

13.1 Disposal Methods
Follow all applicable local, state, and federal regulations.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14 – Transport Information

	DOT	IMDG	IATA
UN number	1993	1993	1993
Un proper shipping name	Flammable liquids, n.o.s. (1-Buten-3-yne)	FLAMMABLE LIQUIDS, N.O.S. (1-BUTEN-3-YNE), MARINE POLLUTANT	Flammable liquid, n.o.s. (1-Buten-3-yne)
Transport hazard class	3	3	3
Packing group	I	I	I
Marine pollutant	-	Yes	-

Section 15 – Regulatory Information

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
This material does contain xylenes that may exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Fire hazard, Acute health hazard, Chronic health hazard.

Section 16 – Other Information

	HMIS		
Health - Chronic			NFPA
Health Hazard	2	Health Hazard	2
Flammability	4	Fire Hazard	4
Physical	2	Reactivity	1

Prepared By:
Wiley Companies
The EH&S Department.

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