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**MSDS: Allene**

## PRODUCT INFORMATION

**PRODUCT:** Allene

**TRADE NAME:** Allene

**CHEMICAL NAME:** Allene or Propadiene

**SYNONYMS:** Propadiene

**FORMULA:** C<sub>3</sub>H<sub>4</sub>

**CHEMICAL FAMILY:** Diolefin

**SUPPLIER'S NAME:** MEGS Inc.

**SUPPLIER'S ADDRESS:** 2675 De Miniac  
Ville St-Laurent, Qc, H4S 1E5

**EMERGENCY PHONE NUMBER:** (514) 956-7503

**MOLECULAR WEIGHT:** 40.07

**PRODUCT USE:** Various

**PRODUCT IDENTIFICATION UN 2200  
NUMBER:**

## HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Allene	100%	463-490	None	None

## PHYSICAL DATA

**PHYSICAL STATE:** Gas and liquid under pressure

**APPEARANCE:** Colorless gas

**ODOR:** Sweet olefinic odor

**ODOR THRESHOLD:** Unknown

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** See Vapor Density (air = 1)

**VAPOR PRESSURE:** 620 kPa @ 15°C

VAPOR DENSITY (air = 1): 1.39  
EVAPORATION RATE: Unknown  
BOILING POINT: -34.4°C  
FREEZING POINT: -136.3°C  
pH: Not applicable (gas)  
GAS DENSITY: 1.660 kg/m<sup>3</sup> @ 15°C, 101.3 kPa  
COEFFICIENT OF WATER/OIL Insoluble in water  
DISTRIBUTION:

### FIRE OR EXPLOSION HAZARD

**CONDITIONS OF FLAMMABILITY:** Flammable in air over a specific range

**MEANS OF EXTINCTION:** Water, carbon dioxide, dry chemical.  
"Stop flow of gas before extinguishing fire".

**FLASHPOINT AND METHOD OF DETERMINATION:** Not applicable (gas)

**UPPER EXPLOSION LIMIT (% BY VOL):** 11.5

**LOWER EXPLOSION LIMIT (% BY VOL):** 2.16

**AUTO-IGNITION TEMPERATURE:** None established

**FLAMMABILITY CLASSIFICATION:** Class 1, group not specified

**HAZARDOUS COMBUSTION PRODUCTS:** None

**EXPLOSION DATA:** Yes with oxidizers

**SENSITIVITY TO STATIC DISCHARGE:** Yes

### REACTIVITY DATA

**CHEMICAL STABILITY:** Stable; isomerizes to methyl acetylene in presence of strong oxidizers

**INCOMPATIBLE MATERIALS:** Oxidizers

**CONDITIONS OF REACTIVITY:** None

**HAZARDOUS DECOMPOSITION PRODUCTS:** None

### TOXICOLOGICAL PROPERTIES

#### ROUTES OF ENTRY:

**SKIN CONTACT:** Is a slight irritant to the skin and mucosal tissues. Due to its

rapid rate of evaporation it can cause tissue freezing or frostbite on dermal contact.

**SKIN ABSORPTION:** None

**EYE:** See Skin Contact, above

**INHALATION:** Moderate concentrations so as to exclude an adequate supply of oxygen to the lungs causes dizziness, drowsiness and eventual unconsciousness. It has been reported to act as an anesthetic at very high concentrations.

**INGESTION:** None

**ACUTE OVER EXPOSURE EFFECTS:** Has been reported that breathing high concentrations causes an anesthetic effect; however, the major property is the exclusion of an adequate supply of oxygen to the lungs.

Frostbite effects are a change in color of the skin to gray or white possibly followed by blistering.

**CHRONIC OVER EXPOSURE EFFECTS:** None

**EXPOSURE LIMITS:** Allene should be defined as a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. (ACGIH-1995-1996)

**IRRITANCY OF PRODUCT:** See Skin Contact above.

**SENSITIZATION TO MATERIAL:** None

**CARCINOGENICITY, REPRODUCTIVE EFFECTS:** None

**TERATOGENICITY, MUTAGENICITY:** None

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None

## **PREVENTIVE MEASURES**

**PERSONAL PROTECTIVE EQUIPMENT:** Plastic or rubber gloves. Safety goggles or glasses. Safety shoes, safety shower, eyewash "fountain".

**SPECIFIC ENGINEERING CONTROLS:** Allene is noncorrosive and may be used with any common structural material.

**LEAK AND SPILL PROCEDURES:** EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest MEGS location.

**WASTE DISPOSAL:** Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps and valve protection cap in place to MEGS for proper disposal. For emergency disposal, contact the closest MEGS location.

**HANDLING PROCEDURES AND EQUIPMENT:** USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinders to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

**STORAGE REQUIREMENTS:** Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

**TDG CLASSIFICATION:** 2.1

**WHMIS CLASSIFICATION:** A, B

**SPECIAL SHIPPING INFORMATION:** Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

## **FIRST AID MEASURES**

**SPECIFIC FIRST AID PROCEDURES:** PROMPT MEDICAL ATTENTION IS

MANDATORY IN ALL CASES OF OVEREXPOSURE TO ALLENE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD.

**INHALATION:** Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

**EYE CONTACT:** PERSONS WITH POTENTIAL EXPOSURE TO ALLENE SHOULD NOT WEAR CONTACT LENSES.

Flush contaminated eye(s) with copious quantities of water. Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes.

**SKIN CONTACT:** Dermal Contact or Frostbite: Remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

## **PREPARATION INFORMATION**

**PREPARED BY:** Safety Department

**DATE PREPARED:** 01/01/1999

**LAST REVISION DATE:** 05/21/2002

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