

MATERIAL SAFETY DATA SHEET

Date Printed: 10/13/2006

Date Updated: 02/04/2006

Version 1.5

Section 1 - Product and Company Information

Product Name 4-VINYLPYRIDINE, 95%
Product Number V3204
Brand ALDRICH

Company Sigma-Aldrich
Address 3050 Spruce Street
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832
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Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
4-VINYLPYRIDINE	100-43-6	No

Formula C7H7N
Synonyms 4-Ethenylpyridine * Pyridine, 4-ethenyl- (9CI) *
gamma-Vinylpyridine * 4-Vinylpyridine
RTECS Number: UU1045000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Combustible (USA) Flammable (EU). Toxic.
Toxic if swallowed. Causes burns. May cause sensitization by
inhalation and skin contact.
Lachrymator. Unpleasant odor.

HMIS RATING

HEALTH: 3
FLAMMABILITY: 2
REACTIVITY: 0

NFPA RATING

HEALTH: 3
FLAMMABILITY: 2
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is
conscious. Call a physician. Do not induce vomiting.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give
artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

118.4 °F 48 °C Method: closed cup

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions. Combustible liquid.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Store under inert gas. Keep tightly closed. Keep away from heat and open flame. Store at -20°C

SPECIAL REQUIREMENTS

Store under inert gas.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

Other: Faceshield (8-inch minimum).

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Clear liquid Color: Deep brown-yellow	
Property	Value	At Temperature or Pressure
Molecular Weight	105.14 AMU	
pH	N/A	
BP/BP Range	58.0 - 61.0 °C	12 mmHg
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	0.984 g/cm ³	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	Log Kow: 1.9	
Decomposition Temp.	N/A	
Flash Point	118.4 °F 48 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.549	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Other Solvents: CHLOROFORM, ETHANOL	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Lachrymator. Causes burns.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Toxic if swallowed.

SENSITIZATION

Sensitization: May cause allergic respiratory and skin reactions

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

TOXICITY DATA

Oral

Rat

100 mg/kg

LD50

Inhalation

Rat

170 mg/m³

LC50

Oral

Mouse

161 mg/kg

LD50

Remarks: Behavioral:Aggression. Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Respiratory depression.

Inhalation

Mouse

380 mg/m³

LC50

Remarks: Behavioral:Aggression. Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration:Respiratory depression.

Oral

Guinea pig

321 mg/kg

LD50

Remarks: Behavioral:Aggression. Lungs, Thorax, or

Respiration:Respiratory depression. Behavioral:Somnolence
(general depressed activity).

Oral
Mammal
216 mg/kg
LD50

Oral
Bird (wild)
100 mg/kg
LD50

Section 12 - Ecological Information

No data available.

ACCUMULATION

Bioaccumulation Potential: No indication of
bioaccumulation.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose
of this material. This combustible material may be burned in a
chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Vinylpyridines, inhibited
UN#: 3073
Class: 6.1
Packing Group: Packing Group II
Hazard Label: Flammable liquid
Hazard Label: Corrosive
PIH: Not PIH

IATA

Proper Shipping Name: Vinylpyridines, stabilized
IATA UN Number: 3073
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: T
Indication of Danger: Toxic.
R: 10-25-34-42/43
Risk Statements: Flammable. Toxic if swallowed. Causes burns.
May cause sensitization by inhalation and skin contact.
S: 16-23-26-36/37/39-45
Safety Statements: Keep away from sources of ignition - no
smoking. Do not breathe vapor. In case of contact with eyes,
rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing, gloves, and eye/face
protection. In case of accident or if you feel unwell, seek
medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Combustible (USA) Flammable (EU). Toxic.

Risk Statements: Toxic if swallowed. Causes burns. May cause sensitization by inhalation and skin contact.

Safety Statements: Keep away from sources of ignition - no smoking. Do not breathe vapor. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements: Lachrymator. Unpleasant odor.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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