

## MATERIAL SAFETY DATA SHEET

Date Printed: 04/10/2008

Date Updated: 02/05/2006

Version 1.2

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Section 1 - Product and Company Information

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Product Name 2,4-LUTIDINE, 99%  
Product Number L3609  
Brand ALDRICH

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

Technical Phone: 800-325-5832  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

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Section 2 - Composition/Information on Ingredient

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Substance Name	CAS #	SARA 313
2,4-LUTIDINE	108-47-4	No

Formula C7H9N  
Synonyms alpha,gamma-Dimethylpyridine \*  
2,4-Dimethylpyridine \* Pyridine, 2,4-dimethyl-  
(9CI)  
RTECS Number: OK9400000

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Flammable. Toxic.  
Toxic by inhalation, in contact with skin and if swallowed.  
Irritating to eyes, respiratory system and skin.

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

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Section 4 - First Aid Measures

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## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## INHALATION EXPOSURE

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

## EYE EXPOSURE

Assure adequate flushing of the eyes by separating the eyelids with fingers.

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Section 5 - Fire Fighting Measures

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## EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Forms explosive mixtures in air.

FLASH POINT  
116.6 °F 47 °C Method: closed cup

AUTOIGNITION TEMP  
N/A

FLAMMABILITY  
N/A

#### EXTINGUISHING MEDIA

Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Vapor may travel considerable distance to source of ignition and flash back.

EXPOSURE HAZARD(S)  
Material: Toxic.

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### Section 6 - Accidental Release Measures

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PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL  
Evacuate area. Shut off all sources of ignition.

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, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

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### Section 7 - Handling and Storage

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#### HANDLING

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

#### STORAGE

Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

SPECIAL REQUIREMENTS  
Hygroscopic.

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### Section 8 - Exposure Controls / PPE

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#### ENGINEERING CONTROLS

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

#### PERSONAL PROTECTIVE EQUIPMENT

Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

#### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

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#### Section 9 - Physical/Chemical Properties

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Appearance	Color: Deep red Form: Clear liquid	
Property	Value	At Temperature or Pressure
Molecular Weight	107.16 AMU	
pH	N/A	
BP/BP Range	156.0 - 158.0 °C	
MP/MP Range	- 60.0 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	0.929 g/cm3	
Bulk Density	N/A	
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	N/A	
Decomposition Temp.	N/A	
Flash Point	116.6 °F 47 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.499	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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#### Section 10 - Stability and Reactivity

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##### STABILITY

Materials to Avoid: Acids, Acid chlorides, Oxidizing agents, Chloroformates.

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and nitrogen oxides.

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#### Section 11 - Toxicological Information

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##### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Eye Contact: Causes severe eye irritation.

Inhalation: Material is irritating to mucous membranes and upper

respiratory tract.

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.

#### SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Coughing, chest pains, difficulty in breathing. Gastrointestinal disturbances. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### TOXICITY DATA

Oral  
Rat  
200 mg/kg  
LD50

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#### Section 12 - Ecological Information

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No data available.

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#### Section 13 - Disposal Considerations

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#### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

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#### Section 14 - Transport Information

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##### DOT

Proper Shipping Name: Flammable liquids, toxic, n.o.s.  
UN#: 1992  
Class: 3  
Packing Group: Packing Group III  
Hazard Label: Flammable liquid  
Hazard Label: Toxic substances.  
PIH: Not PIH

##### IATA

Proper Shipping Name: Flammable liquid, toxic, n.o.s.  
IATA UN Number: 1992  
Hazard Class: 3  
Packing Group: III

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#### Section 15 - Regulatory Information

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#### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: T  
Indication of Danger: Toxic.  
R: 10-23/24/25-36/37/38  
Risk Statements: Flammable. Toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.  
S: 16-26-36/37/39-45  
Safety Statements: Keep away from sources of ignition - no smoking. 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: Flammable. Toxic.

Risk Statements: Toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.

Safety Statements: Keep away from sources of ignition - no smoking. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 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.

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

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Section 16 - Other Information

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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. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.