

## MATERIAL SAFETY DATA SHEET

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Section 1 - Product and Company Information

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Product Name 2-PENTANOL, 98%  
Product Number P8017  
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-PENTANOL	6032-29-7	No

Formula C5H12O  
Synonyms Isoamyl alcohol, secondary (OSHA) \* Methyl propyl carbinol \* Pentanol-2 \* sec-Pentyl alcohol  
RTECS Number: SA4900000

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Combustible (USA) Flammable (EU). Harmful.  
Harmful by inhalation. Irritating to eyes, respiratory system and skin. Repeated exposure may cause skin dryness or cracking.  
Target organ(s): Eyes. Central nervous system.

## HMIS RATING

HEALTH: 6  
FLAMMABILITY: 2  
REACTIVITY: 0

## NFPA RATING

HEALTH: 2  
FLAMMABILITY: 2  
REACTIVITY: 0

\*additional chronic hazards present.

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.

#### DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

#### EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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### Section 5 - Fire Fighting Measures

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#### FLASH POINT

93.2 °F 34 °C Method: closed cup

#### EXPLOSION LIMITS

Lower: 1.2 % Upper: 9 %

#### AUTOIGNITION TEMP

343 °C

#### 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): Combustible liquid. Emits toxic fumes under fire conditions.

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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.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, 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: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Suitable: Keep tightly closed. Keep away from heat and open flame.

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

### 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.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

### EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	OSHA.	PEL	8H TWA 100 PPM (360 MG/M3)
USA	NIOSH	TWA	100 PPM
		STEL	125 PPM

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## Section 9 - Physical/Chemical Properties

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Appearance	Color: Colorless Form: Clear liquid	
Property	Value	At Temperature or Pressure
Molecular Weight	88.15 AMU	
pH	N/A	
BP/BP Range	118.0 - 121.0 °C	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	3 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.809 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	93.2 °F 34 °C	Method: closed cup
Explosion Limits	Lower: 1.2 % Upper: 9 %	
Flammability	N/A	
Autoignition Temp	343 °C	
Refractive Index	1.407	
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: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

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

Eye Contact: Causes eye irritation.

Inhalation: Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

### TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system. Eyes.

### SIGNS AND SYMPTOMS OF EXPOSURE

Narcotic effect. Nausea, headache, and vomiting. Prolonged exposure can cause:

### TOXICITY DATA

Oral

Rabbit

2821 mg/kg

LD50

Remarks: Cardiac:Pulse rate. Lungs, Thorax, or

Respiration:Dyspnea. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Corneal damage.

### IRRITATION DATA

Skin

Rabbit

20 mg

24H

Remarks: Moderate irritation effect

Eyes

Rabbit

20 mg

24H

Remarks: Moderate irritation effect

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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

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.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: PENTANOLS  
UN#: 1105  
Class: 3  
Packing Group: III  
Hazard Label: Flammable liquid  
PIH: NO

### IATA

Proper Shipping Name: PENTANOLS  
IATA UN Number: 1105  
Hazard Class: 3  
Packing Group: 3

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## Section 15 - Regulatory Information

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### EU DIRECTIVES CLASSIFICATION

Symbol of Danger: Xn  
Indication of Danger: Harmful.  
R: 10-20-37-66  
Risk Statements: Flammable. Harmful by inhalation. Irritating to respiratory system. Repeated exposure may cause skin dryness or cracking.  
S: 46  
Safety Statements: If swallowed, seek medical advice immediately and show this container or label.

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Combustible (USA) Flammable (EU). Harmful.  
Risk Statements: Harmful by inhalation. Irritating to eyes, respiratory system and skin. Repeated exposure may cause skin dryness or cracking.  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. If swallowed, seek medical advice immediately and show this container or label.  
US Statements: Target organ(s): Eyes. Central nervous system.

### 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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### 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.