

## MATERIAL SAFETY DATA SHEET

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Version 1.4

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Section 1 - Product and Company Information

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Product Name                   INDOLE, 98%  
Product Number                269077  
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
INDOLE	120-72-9	No

Formula                    C8H7N  
Synonyms                   1-Azaindene \* 1-Benzazole \* Benzopyrrole \*  
                              2,3-Benzopyrrole \* Indol (German) \* Ketole  
RTECS Number:              NL2450000

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Toxic (USA) Harmful (EU).

Harmful in contact with skin and if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Unpleasant odor.

## HMIS RATING

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 1

## NFPA RATING

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 1

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 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.

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### Section 5 - Fire Fighting Measures

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#### FLASH POINT

249.8 °F    121 °C    Method: closed cup

#### AUTOIGNITION TEMP

N/A

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: Carbon dioxide. Dry chemical powder. Water spray.

#### 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.

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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

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. 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 dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Suitable: Keep tightly closed.

#### SPECIAL REQUIREMENTS

Air and light sensitive.

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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 dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

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#### Section 9 - Physical/Chemical Properties

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Appearance	Color: Faintly brown Form: Fine plates	
Property	Value	At Temperature or Pressure
Molecular Weight	117.15 AMU	
pH	N/A	
BP/BP Range	253.0 - 254.0 °C	760 mmHg
MP/MP Range	52 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
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	249.8 °F 121 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solvent: Clear 0.1 g/ml MeOH	

N/A = not available

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#### Section 10 - Stability and Reactivity

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##### STABILITY

Stable: Stable.

Conditions to Avoid: Light. Air.

Materials to Avoid: Strong oxidizing agents Iron and iron salts.

##### HAZARDOUS DECOMPOSITION PRODUCTS

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

##### HAZARDOUS POLYMERIZATION

Section 11 - Toxicological Information

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ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.  
Skin Absorption: Harmful if absorbed through skin.  
Eye Contact: Causes severe eye irritation.  
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.  
Ingestion: Harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Nausea, headache, and vomiting. Exposure can cause:

TOXICITY DATA

Oral  
Rat  
1000 mg/kg  
LD50

Intraperitoneal  
Mouse  
117 MG/KG  
LD50

Subcutaneous  
Mouse  
225 MG/KG  
LD50

Skin  
Rabbit  
790 mg/kg  
LD50

IRRITATION DATA

Eyes  
Rabbit  
0.75 mg  
24H  
Remarks: Severe irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Species: Mouse  
Route of Application: Subcutaneous  
Dose: 1000 MG/KG  
Exposure Time: 25W  
Frequency: I  
Result: Tumorigenic: Carcinogenic by RTECS criteria.  
Blood: Leukemia

Species: Mouse  
Route of Application: Subcutaneous  
Dose: 2000 MG/KG  
Exposure Time: 20W  
Frequency: I

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Tumorigenic: Tumor types after systemic administration not seen spontaneously.

Species: Mouse  
Route of Application: Subcutaneous  
Dose: 120 MG/KG  
Exposure Time: 12W  
Frequency: I  
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Blood: Leukemia

Species: Mouse  
Route of Application: Subcutaneous  
Dose: 1200 MG/KG  
Exposure Time: 93W  
Frequency: C  
Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors. Blood: Leukemia

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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. Dissolve or mix the material with a combustible solvent and burn 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: Toxic solids, organic, n.o.s.  
UN#: 2811  
Class: 6.1  
Packing Group: Packing Group III  
Hazard Label: Toxic substances.  
PIH: Not PIH

### IATA

Proper Shipping Name: Toxic solid, organic, n.o.s.  
IATA UN Number: 2811  
Hazard Class: 6.1  
Packing Group: III

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## Section 15 - Regulatory Information

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### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xn-N  
Indication of Danger: Harmful. Dangerous for the environment.  
R: 21/22-37/38-41-50/53  
Risk Statements: Harmful in contact with skin and if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
S: 26-36/37/39-60-61  
Safety Statements: 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. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

#### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic (USA) Harmful (EU).

Risk Statements: Harmful in contact with skin and if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Statements: 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. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US Statements: 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

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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.