Section 1 - Product and Company Information

Product Name: BENZYL ALCOHOL, 99+% A.C.S. REAGENT
Product Number: 402834
Brand: ALDRICH
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name: BENZYL ALCOHOL
CAS #: 100-51-6
SARA 313: No
Formula: C7H8O
Synonyms: Benzal alcohol * Benzenecarbinol *
* Benzenemethanol * Benzoyl alcohol *
* Hydroxytoluene * alpha-Hydroxytoluene * Methanol, phenyl- *
* NCI-C06111 * Phenolcarbinol *
* Phenylcarbinol * Phenylmethanol * Phenylmethyl alcohol * alpha-Toluenol
RTECS Number: DN3150000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful.
Harmful by inhalation and if swallowed. Irritating to skin.
Target organ(s): Central nervous system.

HMIS RATING
HEALTH: 2*
FLAMMABILITY: 1
REACTIVITY: 1

NFPA RATING
HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 1

*additional chronic hazards present.

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.

**INHALATION EXPOSURE**
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

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

**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**
204.8 °F  96 °C  Method: closed cup

**AUTOIGNITION TEMP**
436 °C

**FLAMMABILITY**
N/A

**EXTINGUISHING MEDIA**
Suitable: Water spray. 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.

### 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**
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

### Section 7 - Handling and Storage

**HANDLING**
User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**STORAGE**
Suitable: Keep tightly closed. Handle and store under nitrogen. Store in a cool dry place.

**SPECIAL REQUIREMENTS**
Handle and store under inert gas. Hygroscopic.
Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

EXPOSURE LIMITS
Country       Source  Type      Value
Poland        NDS     240 mg/m3
Poland        NDSCh  -
Poland        NDSP

Section 9 - Physical/Chemical Properties

Appearance
Physical State: Clear liquid
Color: Colorless

Property                          Value                          At Temperature or Pressure
Molecular Weight                  108.14 AMU                     
PH                               N/A                             
BP/BP Range                       90 - 93 °C                     10 mmHg
MP/MP Range                       -16 °C                          
Freezing Point                    N/A                             
Vapor Pressure                    3.75 mmHg                       77 °C
Vapor Density                     3.7 g/l                         
Saturated Vapor Conc.             N/A                             
SG/Density                        1.044 g/cm3                     
Bulk Density                      N/A                             
Odor Threshold                    5.5 ppm                         
Volatile%                        N/A                             
VOC Content                       N/A                             
Water Content                     N/A                             
Solvent Content                   N/A                             
Evaporation Rate                  N/A                             
Viscosity                         0.005 Pas                       25 °C
Surface Tension                   39 mN/m                         20 °C
Partition Coefficient             Log Kow: 1.1                     
Decomposition Temp.               N/A                             
Flash Point                       204.8 °F 96 °C                  Method: closed cup
Explosion Limits                  N/A                             
Flammability                      N/A                             
Autoignition Temp                 436 °C                          
Refractive Index                  1.54                            
Optical Rotation                  N/A                             
Miscellaneous Data                N/A                             
Solubility                        Solubility in Water:33 mg/ml H2O, 20°C clear, colorless
Other Solvents: SOLUBLE IN ETHANOL, ETHER

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions of Instability: Hygroscopic.
Conditions to Avoid: A mixture of benzyl alcohol and 58% sulfuric acid decomposed violently when heated to 180°C. Benzyl alcohol containing 1.4% hydrogen bromide and 1.1% of an iron(II) salt polymerized exothermally when heated above 100°C.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)
Central nervous system.

SIGNS AND SYMPTOMS OF EXPOSURE
Can cause CNS depression.

TOXICITY DATA

Oral
Rat
1230 mg/kg
LD50

Intraperitoneal
Rat
400 MG/KG
LD50

Intravenous
Rat
53 MG/KG
LD50
Remarks: Lungs, Thorax, or Respiration: Dyspnea.

Intraarterial
Rat
441 MG/KG
LD50
Remarks: Lungs, Thorax, or Respiration: Chronic pulmonary edema.
Lungs, Thorax, or Respiration: Dyspnea.

Oral
Mouse
1360 mg/kg
LD50
Intraperitoneal
Mouse
650 MG/KG
LD50

Intravenous
Mouse
324 MG/KG
LD50

Oral
Rabbit
1040 mg/kg
LD50

Skin
Rabbit
2000 mg/kg
LD50

Oral
Guinea pig
2500 mg/kg
LD50

Oral
Bird (wild)
100 mg/kg
LD50

IRRITATION DATA

Skin
Man
16 mg
48H
Remarks: Mild irritation effect

Skin
Rabbit
100 mg
24H
Remarks: Moderate irritation effect

Skin
Pig
100 %
Remarks: Moderate irritation effect

NTP CARCINOGEN LIST

Rating: No evidence.
Species: Mouse/rat
Route: Gavage

CHRONIC EXPOSURE - MUTAGEN

Species: Rat
Dose: 10 MMOL/L
Cell Type: liver
Mutation test: DNA damage

Species: Mouse
Dose: 250 MG/L (+S9)
Cell Type: lymphocyte
Mutation test: Mutation in microorganisms

Species: Hamster
Dose: 4 UG/L
Cell Type: ovary
Mutation test: Cytogenetic analysis

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Mouse
Dose: 6 GM/KG
Route of Application: Oral
Exposure Time: (6-13D PREG)
Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 55 mg/l

Test Type: LC50 Fish
Species: Lepomis macrochirus (Bluegill)
Time: 96 h
Value: 10 mg/l

Section 13 - Disposal Considerations

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.

Section 14 - Transport Information

DOT
Proper Shipping Name: Aviation Regulated Liquid, N.O.S.
UN#: 3334
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA
Proper Shipping Name: Aviation Regulated Liquid, N.O.S.
IATA UN Number: 3334
Hazard Class: 9

Section 15 - Regulatory Information
EU DIRECTIVES CLASSIFICATION
Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 20/22
Risk Statements: Harmful by inhalation and if swallowed.
S: 26
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Harmful.
Risk Statements: Harmful by inhalation and if swallowed. Irritating to skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.
US Statements: Target organ(s): 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

Section 16 - Other Information

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

WARRANTY
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