

**EMERGENCY PHONE NO - CHEMTREC: 1-800-424-9300**

Date: January 1, 2014

Product Name: **BUTANOL-1 REAGENT ACS**

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

## Material Identity

Product Name: BUTANOL-1 REAGENT ACS

General or Generic ID: ALCOHOL

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
BUTANOL	71-36-3	100.0

## 3. HAZARDS IDENTIFICATION

## Potential Health Effects

## Eye

Can cause severe eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure eye tissue.

## Skin

Can cause skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, and drying and cracking of skin, burns and other skin damage. Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

## Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

## Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

## Symptoms of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may

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include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways), cough, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), blurred vision.

#### Target Organ Effects

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: anemia, kidney damage, lung damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: anemia, effects on hearing.

#### Developmental Information

This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

#### Cancer Information

There is no information available. The chance of this material causing cancer is unknown. This material is not listed as a carcinogen by the International Agency for Research on Cancer, the National Toxicology Program, or the Occupational Safety and Health Administration.

#### Other Health Effects

No data

#### Primary Route(s) of Entry

Inhalation, Skin absorption, Skin contact, Eye contact.

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## 4. FIRST AID MEASURES

### Eyes

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

### Skin

Remove contaminated clothing. Flush exposed area with large amounts of water. If skin is damaged, seek immediate medical attention. If skin is not damaged and symptoms persist, seek medical attention. Launder clothing before reuse.

### Swallowing

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

### Inhalation

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If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physicians

This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 - Swallowing) when deciding whether to induce vomiting. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions), kidney, auditory system, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

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5. FIRE FIGHTING MEASURES

Flash Point

97.0 F (36.1 C)

Explosive Limit

(for product) Lower 1.4 Upper 11.2 %

Autoignition Temperature

No data

Hazardous Products of Combustion

May form: carbon dioxide and carbon monoxide.

Fire and Explosion Hazards

Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media

alcohol foam, carbon dioxide, dry chemical.

Fire Fighting Instructions

Water may be ineffective. Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating

Health - 1, Flammability - 3, Reactivity - 0

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6. ACCIDENTAL RELEASE MEASURES

Small Spill

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Large Spill

Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

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7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. All five-gallon pails and larger metal containers, including tank cars and tank trucks, should be grounded and/or bonded when material is transferred. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin Protection

Wear resistant gloves (consult your safety equipment supplier)., To prevent repeated or prolonged skin contact, wear impervious clothing and boots..

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Respiratory Protections

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

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BUTANOL (71-36-3)

OSHA VPEL 50.000 ppm - Ceiling (Skin)

ACGIH TLV 50.000 ppm - Ceiling (Skin)

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (for product)- 243.0 F (117.2 C) @ 760 mmHg

Vapor Pressure (for product)- 4.400 mmHg @ 68.00 F

Specific Vapor Density- 2.600 @ AIR=1

Specific Gravity- .810 @ 68.00 F

Liquid Density- 6.740 lbs/gal @ 68.00 F

810 kg/l @ 20.00 C

Percent Volatiles- 100.0 %

Evaporation Rate- 46 (BU AC)

Appearance- No data

State- LIQUID

Physical Form- NEAT

Color- CLEAR & COLORLESS

Odor- No data

pH- Not applicable

10. STABILITY AND REACTIVITY

Hazardous Polymerization

Product will not undergo hazardous polymerization.

Hazardous Decomposition

May form: carbon dioxide and carbon monoxide.

Chemical Stability

Stable.

Incompatibility

Avoid contact with: strong oxidizing agents.

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11. TOXICOLOGICAL INFORMATION

No data

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12. ECOLOGICAL INFORMATION

No data

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13. DISPOSAL CONSIDERATION

Waste Management Information

Dispose of in accordance with all applicable local, state and federal regulations.

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14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:  
UN1120, BUTANOLS, 3, III

Container/Mode:  
55 GAL DRUM/TRUCK PACKAGE

NOS Component:  
None

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs) Component

5000	BUTANOL
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15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status  
TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component	RQ (lbs)
N-BUTYL ALCOHOL	5000

SARA 302 Components - 40 CFR 355 Appendix A  
None

