PURITAN PRODUCTS

Effective Date: 01/01/13
Replaces Revision: 07/02/09

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: REAGENT ALCOHOL
Synonyms: Doubly Denatured Ethanol; Modified 3A Alcohol; Alcohol, Anhydrous
Chemical Formula: Not applicable to mixtures
Recommended Use of the Chemical and Restrictions On Use: Laboratory Reagent
Manufacturer / Supplier: Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225
Emergency Phone Number: 24-Hour Chemtrec Emergency Telephone 800-424-9300

2. Hazard(s) Identification

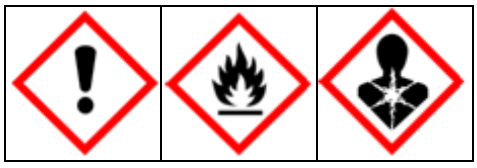
Classification of the Substance or Mixture:
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 1)

Risk Phrases:
R11: Highly flammable.
R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.
R39: Danger of very serious irreversible effects.

Label Elements:

Trade Name: REAGENT ALCOHOL

Signal Word: Danger



Hazard Statements:
H225: Highly flammable liquid and vapor.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H370: Causes damage to organs.

Precautionary Statements:
P210: Keep away from heat / sparks / open flames / hot surfaces. No smoking.
P260: Do not breathe dust / fume / gas / mist / vapors / spray.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

3. Composition / Information on Ingredients

CAS Number: Not applicable to mixtures 1
EC Number: Not applicable to mixtures
Index Number: Not applicable to mixtures
Molecular Weight: Not applicable to mixtures

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
Ethyl Alcohol	64-17-5	200-578-6	90 - 95%	Yes	Substance
Methyl Alcohol	67-56-1	200-659-6	1 - 5%	Yes	Substance
Isopropyl Alcohol	67-63-0	200-661-7	1 - 5%	Yes	Substance

4. First-aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Call a physician.

Ingestion: DO NOT INDUCE VOMITING unless directed by a physician! Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: In case of contact, immediately wash skin with soap or mild detergent and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire-fighting Measures

Fire: Flammable Liquid and Vapor! Flash point: 13C (55F) CC / Autoignition temperature: 422F (792F)
Flammable limits in air % by volume: lel: 3.3; uel: 19

Explosion: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Sealed containers may rupture when heated. Sensitive to static discharge.

Fire Extinguishing Media*:* Use Alcohol foam, dry chemical or Carbon Dioxide. Water may be ineffective.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Vapors can flow along surfaces to distant ignition source and flash back.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth,) and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid.) Observe all warnings and precautions listed for the product.

8. Exposure Controls / Personal Protection

Airborne Exposure Limits:
OSHA Permissible Exposure Limit (PEL):
1000 ppm (TWA) for Ethyl Alcohol
400 ppm (TWA) for Isopropyl Alcohol
200 ppm (TWA) for Methyl Alcohol
ACGIH Threshold Limit Value (TLV):
1000 ppm (STEL), A3 - confirmed animal carcinogen with unknown relevance to humans for Ethyl Alcohol
200 ppm (TWA), 400 ppm (STEL), A4 - not classifiable as a human carcinogen for Isopropyl Alcohol
200 ppm (TWA), 250 ppm (STEL) skin, for Methyl Alcohol

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document*, Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Use explosion-proof equipment.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full face piece respirator, air-lined hood, or full face piece, self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: Clear, colorless liquid
Odor: Mild pleasant whiskey-like odor
Odor Threshold: Not determined
pH: No information found
% Volatiles by volume @ 21C (70F): 100
Melting Point: -114C (-173F) (ethanol)
Boiling Point / Boiling Range: 78C (172F) (ethanol)

Flash Point: 13C (55F) CC
Evaporation Rate (BuAC=1): ca. 1.4 (CCl4=1) (ethanol)
Flammability: Flammable Liquid and Vapor!
Upper / Lower Flammability or Explosive Limits: Upper – 19 / Lower – 3.3
Vapor Pressure (mm Hg): 40 @ 19C (66F) (ethanol)
Vapor Density (Air=1): 1.6 (ethanol)
Relative Density: 0.79 @ 20C/4C
Solubility: Miscible in water
Partition Coefficient: n-octanol / water: No information found
Auto-ignition Temperature: 422C (792F)
Decomposition Temperature: No information found
Viscosity: No information found

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

Incompatible Materials: Strong oxidants, silver salts, acid chlorides, alkali metals, metal hydrides, Hydrazine, and many other substances.

Hazardous Decomposition Products: Carbon Dioxide and Carbon Monoxide may form when heated to decomposition.

11. Toxicological Information

Emergency Overview: POISON! DANGER! MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. FLAMMABLE LIQUID AND VAPOR. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY AFFECT LIVER, BLOOD, REPRODUCTIVE SYSTEM.

Potential Health Effects:

Inhalation: Exposure may cause irritation to the mucous membranes of the upper respiratory tract. Prolonged exposures to high concentrations may cause drowsiness, loss of appetite and inability to concentrate.

Ingestion: Cause headaches, gastritis, intoxication, blindness and, in acute cases, death.

Skin Contact: Causes skin irritation, cracking or flaking due to dehydration and defatting action.

Eye Contact: Can cause eye irritation. Splashes may cause temporary pain and blurred vision.

Chronic Exposure: Prolonged skin contact causes drying and cracking of skin. May affect the nervous system. May affect liver, blood, reproductive system. Continued ingestion of small amounts could result in blindness.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Ethyl Alcohol (64-17-5)	No	No	None
Methyl Alcohol (64-56-1)	No	No	None
Isopropyl Alcohol (67-63-0)	No	No	3

Acute Toxicity:

For Ethyl Alcohol:
Oral rat LD50: 7060 mg/kg; inhalation rat LC50: 20,000 ppm/10H;
Irritation data, eye, rabbit: 500 mg/24H moderate;
Investigated as a tumorigen, mutagen, reproductive effecter.

For Methyl Alcohol:
Oral rat LD50: 5628 mg/kg; inhalation rat LC50: 64000 ppm/4H; skin rabbit LD50: 15800 mg/kg;
Irritation data-standard Draize test: skin, rabbit: 20mg/24 hr. Moderate; eye, rabbit: 100 mg/24 hr. Moderate.
Investigated as a mutagen, reproductive effecter.

For Isopropyl Alcohol:
Oral rat LD50: 5045 mg/kg; skin rabbit LD50: 12.8 gm/kg; inhalation rat LC50: 16,000 ppm/8-hour
Investigated as a tumorigen, mutagen, reproductive effecter.

12. Ecological Information

Ecotoxicity: This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

Persistence and Degradability: When released into the soil, this material is expected to readily biodegrade. When released into water, this material is expected to readily biodegrade. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals.

Bioaccumulative Potential: This material is not expected to significantly bioaccumulate.

Mobility in Soil: When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material is expected to leach into groundwater.

Other adverse effects: When released into water, this material may evaporate to a moderate extent. When released into air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material is expected to be readily removed from the atmosphere by dry and wet deposition.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

UN Number: UN1987
UN Proper Shipping Name: ALCOHOLS, N.O.S. (ETHANOL, METHANOL, ISOPROPANOL)
Packing Group: II

DOT **IMDG** **IATA**

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Transport Hazard Class(es): 3

Maritime Transport IMDG/GGVSea
Transport Hazard Class(es): 3
Marine Pollutant: No

Air Transport ICAO-TI and IATA-DGR
Transport Hazard Class(es): 3

Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code

Special Precautions for User: No additional information

15. Regulatory Information

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Ethyl Alcohol (64-17-5)	Yes	Yes	Yes	Yes
Methyl Alcohol (67-56-1)	Yes	Yes	Yes	Yes
Isopropyl Alcohol (67-63-0)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Ethyl Alcohol (64-17-5)	Yes	Yes	No	Yes
Methyl Alcohol (67-56-1)	Yes	Yes	No	Yes
Isopropyl Alcohol (67-63-0)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

	SARA 302		SARA 313	
Ingredient	RQ	TPQ	List Chemical	Catg.
Ethyl Alcohol (64-17-5)	No	No	No	No
Methyl Alcohol (67-56-1)	No	No	Yes	No
Isopropyl Alcohol (67-63-0)	No	No	Yes	No

Federal, State & International Regulations - Part 2

	RCRA		TSCA
Ingredient	CERCLA	261.33	8(d)
Ethyl Alcohol (64-17-5)	No	No	No
Methyl Alcohol (67-56-1)	5000	U154	No
Isopropyl Alcohol (67-63-0)	No	No	No

Chemical Weapons Convention: No		**TSCA 12(b):** No		**CDTA:** Yes
SARA 311/312:	**Acute:** Yes	**Chronic:** Yes	**Fire:** Yes	**Pressure**: No
Reactivity: No		Mixture / Liquid		

Australian Hazchem Code: 2[S]E

Poison Schedule: S6

16. Other Information

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO PURITAN PRODUCTS AT THIS TIME. WHILE BELIEVED TO BE ACCURATE, PURITAN PRODUCTS DOES NOT CLAIM IT TO BE ALL INCLUSIVE. IT IS PROVIDED INDEPENDENT OF ANY SALE OF THE PRODUCT, FOR THE PURPOSE OF HAZARD COMMUNICATION, AND AS A GUIDE FOR THE APPROPRIATE PRECAUTIONARY HANDLING OF THE PRODUCT BY PROPERLY TRAINED INDIVIDUALS. IT IS NOT INTENDED TO PROVIDE PRODUCT PERFORMANCE OR APPLICABILITY INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, THE UNDERLYING PRODUCT DATA, OR THE INFORMATION CONTAINED HEREIN.

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