Safety Data Sheet

Barritt's Reagent A

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Barritt's Reagent A
Recommended Use:	Science education applications
Synonyms:	Voges-Proskauer Test Reagent
Distributor:	Carolina Biological Supply Company 2700 York Road, Burlington, NC 27215 1-800-227-1150
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER

Highly flammable liquid and vapor. Toxic in contact with skin. Causes serious eye damage. Causes damage to organs. Toxic to aquatic life.

GHS Classification:
Serious Eye Damage/Eye Irritation Category 1, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1, Flammable Liquid Category 2, Hazardous to the aquatic environment - Acute Category 2, Acute Toxicity - Dermal Category 3

Other Safety Precautions:	IF exposed: Call a POISON CENTER or doctor/physician.
Acute Toxicity Oral Contains	90.975 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Dermal Contains	85.975 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	90.975 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	90.975 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Ethanol ***Denaturants (trace)*** Isopropanol (CAS# 67-63-0) Methanol (CAS # 67-56-1)		

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin Contact:	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF ON SKIN: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, dry chemical, or water spray when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the fire. Do not direct a water stream directly into the hot burning liquid.

Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Fire and/or Explosion Hazards: Vapors may travel back to ignition source. Closed Containers exposed to heat may explode.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away.
Contain spilled liquid with sand clay. DO NOT use combustible materials such as sawdust. Contain the discharged material. Do not allow the spilled product to enter public drainage system or open waterways.

Section 7 Handling and Storage

Handling: Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/…/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin and eyes.

Storage: Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Red - Flammables. Store in approved flammable containers. Store away from oxidizing materials.

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Ethanol	N/A	1000 ppm STEL	1000 ppm TWA; 1900 mg/m3 TWA	N/A
1-Naphthol	N/A	N/A	N/A	N/A
2-Propanol	200 ppm TWA	400 ppm STEL	400 ppm TWA; 980 mg/m3 TWA	N/A
Methanol	200 ppm TWA	250 ppm STEL	200 ppm TWA; 260 mg/m3 TWA	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Respirator Type(s): NIOSH approved air purifying respirator with organic vapor cartridge and HEPA filter.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Butyl rubber, Natural latex,, Neoprene, Nitrile, Polyvinyl chloride

Section 9 Physical Data

Formula: See Section 3
Molecular Weight: N/A
Appearance: Dark Red Liquid
Odor: Moderate Alcohol Odor
Odor Threshold: No data available

pH: No data available
Melting Point: -114 C
Boiling Point: 79 C
Flash Point: 13 C
Flammable Limits in Air: 3.3% 3.3 - - 19% (Ethanol) 19%

Vapor Pressure: N/A
Evaporation Rate (BuAc=1): 1.70 No data available
Vapor Density (Air=1): 1.59
Specific Gravity: < 1
Solubility in Water: Soluble
Slightly Soluble
Log Pow (calculated): -0.32
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: 95%

Section 10 Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Temperatures above flash point in combination with sparks, open flames, or other sources of ignition. Exposure to light. Exposure to air. Keep lid tightly closed when not in use.
Incompatible Materials: Organic Peroxides, Strong acids, Oxidizing materials, Strong oxidizing agents, Caustics (bases)
Hazardous Decomposition Products: Carbon dioxide, Carbon monoxide
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation and ingestion., Inhalation, ingestion, eye or skin contact.
Symptoms (Acute): Liver disorders, Impaired Kidney Function, Central Nervous System Disorders
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
1-Naphthol				
2-Propanol		Oral LD50 Rat 5045 mg/kg Oral LD50 Mouse 3600 mg/kg		INHALATION LC50 Rat 16000 ppm
Methanol		Oral LD50 Mouse 7300 mg/kg		INHALATION LC50 Rat 64000 ppm

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Ethanol		Listed	Listed	Listed
1-Naphthol		Not listed	Not listed	Not listed
2-Propanol		Listed	Not listed	Not listed
Methanol		Not listed	Not listed	Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: Liver, Kidneys, Blood, Central Nervous System, Eyes
Chronic: Listed by NTP, IARC as causing cancer., Reproductive data cited.

Section 12 Ecological Data

Overview: Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. Keep out of waterways.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: Dissolved into water, Biodegradation, Photodegradation

Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: Biodegrades quickly.
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Ethanol		96 HR LC50 PIMEPHALES PROMELAS > 100 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 2 MG/L [STATIC] 24 HR EC50 DAPHNIA MAGNA 10800 MG/L 48 HR LC50 DAPHNIA MAGNA 9268 - 14221 MG/L
1-Naphthol		Aquatic LC50 (96h) Bluegill Sunfish 0.75 MG/L
2-Propanol		96 HR LC50 LEPOMIS MACROCHIRUS > 1400000 µG/L 96 HR LC50 PIMEPHALES PROMELAS 11130 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 13299 MG/L 72 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L 96 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L
Methanol		96 HR LC50 PIMEPHALES PROMELAS > 100 MG/L [STATIC]

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:
UN1170
ETHANOL SOLUTIONS
CLASS 3
PG II

Air - IATA Proper Shipping Name:
UN number: 1170 Class: 3 Packing group: II Proper shipping name: Ethanol solution

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Ethanol		No	No	No	No	No
1-Naphthol		No	No	No	No	No
2-Propanol		Isopropyl alcohol	No	No	No	No
Methanol		No	No	No	No	No

California Prop 65: WARNING: This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16 Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

Safety Data Sheet

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency for Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
IDLH	Immediately dangerous to life and health