



MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: White Distilled Vinegar
SYNONYMS: 5% Acetic Acid
PRODUCT NUMBER: V886
CAS NO: 64-19-7
NIOSH/RTECS NO: AF1225000 – Acetic Acid
COMPANY INFO: *PhytoTechnology Laboratories*
PO Box 13481 Shawnee Mission, KS 66282-3481
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Percent	Hazardous
Acetic Acid	64-19-7	~5 %	OSHA PEL: 10 ppm; ACGIH TLV: 10 ppm
Water	7732-18-5	~95 %	No exposure limits established by OSHA or ACGIH

3. PHYSICAL & CHEMICAL PROPERTIES

Product Description: White Distilled Vinegar
Formula: $C_2H_4O_2$
Molecular Weight: 60.06
Storage Temperature: RT
pH (1% v/v): Under Development (3.0 – 5.0 suspected range)
Vapor Density: ~1
Melting Point: N/A
Specific Gravity: ~1
Solubility: Miscible with Water
Appearance: Colorless, clear liquid
Odor: Slight pungent odor

4. HAZARDS IDENTIFICATION

Label Hazard Warnings: Irritating to eyes, respiratory system, and skin
Label Precautionary Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.
Laboratory Protective Equipment: Safety glasses, protective gloves, and lab coat

HMIS Rating:	Health	Flammability	Reactivity	Personal Protection Equipment
Vinegar –	1	1	0	C
NFPA Rating:	Health	Flammability	Reactivity	Special Hazards
Acetic Acid –	3	2	0	-

Storage and Handling Precautions: Store in a tightly sealed container in a cool, dry place. Do not breathe fumes. Wash thoroughly after handling.

5. POTENTIAL HEALTH HAZARDS/ TOXICOLOGICAL INFORMATION

Information listed is for Acetic Acid

Toxicity:	LD ₅₀ (Oral-Rat)(mg/Kg):	3310
	LD ₅₀ (IV-Mouse)(mg/Kg):	525
	LD ₅₀ (Oral-Mouse)(mg/Kg):	N/A
Carcinogenicity:	NTP:	No
	IARC:	No
	Z List:	No
	OSHA Reg:	No
Effects of Overexposure:	Irritation, itching, gastrointestinal upset, possible mutagenic and reproductive effects, dermatitis, weight loss, liver impairment, convulsions, breathing difficulties	
Target Organs:	Liver, eyes	
Medical Conditions Aggravated By Exposure:	Ulcer	
Routes of Entry:	Ingestion, inhalation, skin and eye contact	

6. EMERGENCY AND FIRST AID

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

7. FIRE HAZARDS & FIRE FIGHTING MEASURES

Flash Point (Closed Cup):	N/A	
Flammable Limits:	Upper – N/A %	Lower – N/A %
Fire Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.	
Special Fire-Fighting Procedures:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.	
Unusual Fire & Explosion Hazards:	May emit toxic fumes under fire conditions.	
Toxic Gases Produced:	Carbon monoxide, carbon dioxide	

8. REACTIVITY & CONDITIONS TO AVOID

Stability:	Stable under normal conditions of use – Material may be slightly flammable
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	Excessive heat, flame, incompatibles
Incompatibles:	Strong oxidizing agents, acetaldehyde, 2-aminoethanol, ammonium nitrate, ammonium thiosulfate, bromine pentafluoride, chlorine trifluoride, chromic compounds, ethylene diamine, nitric acid, perchloric acid, permanganates, strong bases, peroxides
Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide

9. SPECIAL PRECAUTIONS/PROTECTIVE EQUIPMENT

Ventilation:	Ventilation hood
Respiratory Protection:	A NIOSH/MSHA approved air purifying respirator is recommended where airborne concentrations are expected to exceed exposure limits. Protection provided by purifying respirators is limited.
Eye/Skin Protection:	Have eye-washing facilities readily available where eye contact can occur. Wear chemical safety goggles. Use appropriate chemical protective gloves when handling. Showering and changing into street clothes after work is recommended.

10. SPILLS & LEAKS

Spill or Discharge:	Wear suitable protective clothing and a self-contained breathing apparatus if available. Carefully sweep up and remove. Place material in a dry container and cover. Remove from the area. Flush spill area with water.
Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
EPA Hazardous Waste Number:	N/A

11. TRANSPORTATION DATA

Domestic (D.O.T.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A
International (I.M.O.):	Proper Shipping Name:	CHEMICALS, N.O.S. (NON-REGULATED)
	Hazard Class:	N/A
	UN/NA:	N/A
	Labels:	N/A

12. REGULATORY INFORMATION

U.S. Federal Regulatory Information

TSCA:	Yes
SARA TITLE III:	
Section 302 (EHS) Ingredients:	No
Section 313 Ingredients:	No
Section 304 (EHS/CERCLA) Ingredients:	Yes – Acetic Acid

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SARA TITLE III NOTIFICATION INFORMATION

Acute Health Hazard:	Yes
Chronic Health Hazard:	Yes
Fire Hazard:	Yes
Sudden Release of Pressure Hazard:	No

International Regulatory Information

Risk Phrases: 36/37/38 – Irritating to eyes, respiratory system, and skin

Safety Phrases: 26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
36 – Wear suitable protective clothing

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