

(2005 LABEL)

NATURAL HORTICULTURAL VINEGAR

20% Acidity

With Yucca Extract as a Natural Surfactant (Sticking Agent)

Net Content: 1-Gallon Liquid (3.78 L)

**Ingredients: Horticultural White Vinegar (200 grain) and Yucca Schidigera
Extract. Not for Human Consumption**

KEEP OUT OF REACH OF CHILDREN

**Caution: Strong irritant. May cause eye, skin and respiratory irritation. If
exposed, wash area with water.**

**Bradfield Industries, Inc 610A E Battlefield #203
Springfield, MO 65807 417-882-1442**

**For information on a total Organic program, go to:
www.bradfieldind.com**

MATERIAL SAFETY DATA SHEET

Bradfield Horticultural Vinegar

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Bradfield Horticultural Vinegar
Chemical Name:	Concentrated acetic acid 20%
Chemical Family:	
Synonyms/Brands:	vinegar
Chemical Formula:	CH ₃ COOH
Primary Use:	cleaner
Responsible Party:	Bradfield Industries, Inc 610A East Battlefield Springfield, MO 65807 Tel 417-882-1442 fax 417-882-9312 Info@bradfieldind.com
Non-Emergency Technical Contact:	9:00am to 4:00pm Central Time 417-882-1442

Health Hazards:	Yes		
Physical Hazards:	Yes		
Physical Form:	Liquid		
Appearance:	Clear		
Odor:	Sharp odour of vinegar		
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><u>NFPA HAZARD CLASS</u></p> <p>Health: 2 (Moderate) Flammability: 0 (Least) Instability: 0 (Least) Special Hazard: None</p> </td> <td style="width: 50%; vertical-align: top;"> <p><u>HMS HAZARD CLASS</u></p> <p>Health: 2 (Moderate) Flammability: 0 (Least) Reactivity: 0 (Least) PPE: Section 8</p> </td> </tr> </table>		<p><u>NFPA HAZARD CLASS</u></p> <p>Health: 2 (Moderate) Flammability: 0 (Least) Instability: 0 (Least) Special Hazard: None</p>	<p><u>HMS HAZARD CLASS</u></p> <p>Health: 2 (Moderate) Flammability: 0 (Least) Reactivity: 0 (Least) PPE: Section 8</p>
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	% Weight	Exposure Guideline		
		Limits	Agency	Type

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Eye:	May cause burns and permanent corneal injury.
Skin:	May cause mild injury and burns.
Inhalation (Breathing):	Can cause irritation to the respiratory tract.
Ingestion (Swallowing):	Concentrated vinegar may cause pain, irritation and burns in mouth and stomach.
Signs and Symptoms:	
Cancer:	No
Target Organs:	No
Developmental:	
Other Comments:	
Pre-Existing Medical Conditions:	

4. FIRST AID MEASURES

Eye:	Flush immediately with water.
Skin:	Rinse immediately with water.
Inhalation (Breathing):	Remove to fresh air.
Ingestion (Swallowing):	Drink plenty of water. Do not induce vomiting. Do not give emetics or baking soda.
Note to Physicians:	

5. FIRE FIGHTING MEASURES

Flammable Properties:	
Unusual Fire & Explosion Hazards:	Toxic gases and vapors may be released in a fire involving concentrated vinegar.
Extinguishing Media:	Water spray, foam CO2 or dry chemical. Water may be used to dilute spills.
Fire Fighting Instructions:	

6. ACCIDENTAL RELEASE MEASURES

If vinegar is spilled, dike or contain, ventilate area, dilute with water. May be neutralized with addition of dilute alkaline solutions of soda ash or lime.
Do not flush into streams or sewers.
Protect skin and eyes from exposure.

7. HANDLING AND STORAGE

Handling:	
Storage:	Keep sealed when not in use. Store in dark, dry area.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Controls:

Personal Protective Equipment (PPE)

Respiratory:	As required to prevent exposure to concentrations which exceed the permissible level.
Skin:	Rubber or neoprene gloves recommended. Rubber apron or other protective equipment.
Eye/Face:	Safety glasses or plastic face shield required.
Other PPE:	Eye wash station, safety shower

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1atm).

Flash Point:	40°C closed cup (acetic acid)
Flammable/Explosive Limits (%):	N/A
Autoignition Temperature:	427°C (acetic acid)
Appearance:	Appropriate color and odour for vinegar
Physical State:	Liquid
Odor:	Sharp vinegar odour
Molecular Weight of Pure Material:	N/A
PH:	2.2
Vapor Pressure (mm Hg):	11
Vapor Density (air=1):	2.1
Boiling Point:	244°F
Freezing/Melting Point:	62°F (acetic acid)
Solubility in Water:	Complete
Specific Gravity:	1.01
Volatility:	100%
Bulk Density:	N/A

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	
Incompatible Materials:	Contact with strong oxidizers may cause fires and will react with strong caustics to cause violent spattering and heat.
Hazardous Decomposition Products:	May produce carbon monoxide (CO) and/or carbon dioxide (CO ₂)

Hazardous Polymerization:	None known
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11. TOXICOLOGICAL INFORMATION

Acetic Acid	Recommended exposure limit: 10ppm
	Immediately dangerous to life or health: 1000ppm

12. ECOLOGICAL INFORMATION

Ecotoxicity:	
BOD and COD:	

13. DISPOSAL CONSIDERATIONS

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14. TRANSPORT INFORMATION

Hazard Class or Division:	
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15. REGULATORY INFORMATION

CERCLA:	
RCRA 261.33:	
SARA Title III: (Exemptions at 40 CFR, Part 370 may apply for Agricultural use, or Quantities of less than 10 000 pounds on-site)	
TSCA:	
Proposition 65: (CA Health & Safety code Section 25249.5)	
NTP, IARC, OSHA:	
Canada DSL:	
Canada NDSL:	
WHMIS:	

16. OTHER INFORMATION

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