



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: Vinegar, concentrated
Synonyms: >100 - 300 grain vinegar
Chemical Name: Vinegar
Chemical Family: Carboxylic acid
CAS Number: 8028-52-2

Company Identification

Mizkan Americas, Inc.
1661 Feehanville Dr., Suite 300
Mount Prospect, IL 60056
(847) 590 -0059
Contact Name: Zia Mir, VP of Technical Services (Phone Extension x1331)

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2. COMPOSITION INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Amount</u>	<u>CAS Number</u>
ACETIC ACID	>10.0-30.0%	64-19-7

(See Section 8 for exposure guidelines)

(See Section 15 for regulatory information)

HAZARDS DISCLOSURE

This product contains hazardous materials as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CAUTION

Vapors irritating to eyes and respiratory tract. Avoid inhalation. Liquid may cause eye burns and permanent damage to cornea, possibly leading to blindness. Causes skin irritation.



POTENTIAL HEALTH EFFECTS

EYE:

Extremely irritating to the eyes. If not removed promptly, will injure eye tissue, which may result in permanent damage, including blindness.

SKIN:

Contact causes skin irritation and possible burns.

INHALATION:

Irritating to the nose, throat, and respiratory tract. Avoid breathing vapors or mists.

INGESTION:

Can irritate or burn mouth, throat, and stomach if swallowed.

CARCINOGENICITY INFORMATION:

No known cancer hazards.

REPRODUCTIVE HAZARDS:

Not a reproductive hazard.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID:

Immediately flush eyes with plenty of water.

SKIN CONTACT FIRST AID:

Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.

INHALATION FIRST AID:

If exposed to excessive levels of fumes, remove to fresh air.

INGESTION FIRST AID:

If swallowed, water should be consumed to dilute. Do not induce vomiting. Do not give emetics or baking soda. Contact a physician.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flash Point: Not Applicable - no flash when sample of 300-grain white distilled vinegar tested in Cleveland open cup, tag open cup, or tag closed cup tester.



FLAMMABLE LIMITS IN AIR

LEL: Not Applicable

UEL: Not Applicable

EXTINGUISHING MEDIA:

Will not burn

FIRE & EXPLOSION HAZARDS:

Material will not burn.

6. ACCIDENTAL RELEASE MEASURES

SAFEGUARDS (PERSONNEL):

Protect skin and eyes from exposure. Avoid breathing vapor.

INITIAL CONTAINMENT:

Contain spilled material. Water may be used to dilute. Treat or dispose of waste material as a weak acid in accordance with all local, state/provincial, and national requirements.

LARGE SPILLS PROCEDURE:

Contain spilled material. Large spills may be neutralized with dilute alkaline solutions of soda ash, or lime. Avoid runoff into storm sewers and ditches that lead to waterways. Treat or dispose of waste material as a weak acid in accordance with all local, state/provincial, and national requirements.

SMALL SPILLS PROCEDURE:

Treat or dispose of waste material as a weak acid in accordance with all local, state/provincial, and national requirements. Water may be used to dilute.

7. HANDLING AND STORAGE

HANDLING (PERSONNEL):

Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Wash contaminated clothing before reuse.

STORAGE PRECAUTIONS:

Store in a well ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

(section 8 continued)



EYE / FACE PROTECTION REQUIREMENTS:

Wear safety glasses.

SKIN PROTECTION REQUIREMENTS:

When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. Wear protective gloves to minimize skin contamination.

RESPIRATORY PROTECTION REQUIREMENTS:

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection. Under normal use conditions, with adequate ventilation, no special handling equipment is required.

EXPOSURE GUIDELINES:

Note, these values refer to the acetic acid content

OSHA Permissible Exposure Limit (PEL).....10 ppm acetic acid (25 mg/m³)
(The PEL is the official OSHA occupational exposure standard, and is an 8-hour time-Weighted average (TWA))

ACGIH Threshold Limit Value (TLV).....10 ppm acetic acid (25 mg/m³)
(The TLV is the 8-hour TWA occupational exposure guidance level recommended by The American Conference of Governmental Industrial Hygienists)

ACGIH Short-tenn Exposure Limit (STEL).....15 ppm acetic acid (37 mg/m³)
(The STEL is a level that can be permitted for up to 15 minutes, up to 4-times per day, Provided the overall workshift average does not exceed the TLV-TWA)

Recommended Exposure Limit (REL)..... 10 ppm acetic acid (25 mg/m³)
(The REL is the maximum exposure level recommended by the National Institute for Occupational Safety and Health)

Immediately Dangerous to Life or Health (IDLH) Level..50 ppm acetic acid (125 mg/m³)
(The IDLH is the maximum concentration in air from which one could escape within 30 minutes without escape-impairing symptoms or irreversible health effects)

Skin Designation.....No

Odor Threshold.....0.037-0.15 ppm acetic acid

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM.....	Liquid
COLOR.....	Appropriate color for type of vinegar
ODOR.....	Appropriate odor for type of vinegar
BOILING POINT.....	217°F @ 760 mm Hg at 30% acetic acid (calculated)
VAPOR PRESSURE.....	15.6 mm Hg@ 68°F at 30% acetic acid (calculated)
SOLUBILITY IN WATER.....	Complete
SPECIFIC GRAVITY.....	1.03 -1.04 at 30% acetic acid (Water = 1)
MELTING/FREEZING POINT.....	~ 15°F at 30% acetic acid (calculated)
PH.....	2.0 at 30% acetic acid (calculated)
% VOLATILES.....	100 %

10. STABILITY AND REACTIVITY

STABILITY:

Stable.

POLYMERIZATION:

Product will not undergo polymerization.

INCOMPATIBILITY WITH OTHER MATERIALS:

Avoid contact with strong oxidizing agents. Avoid contact with strong bases.

DECOMPOSITION:

Decomposition will not occur if handled and stored properly. In the case of a fire, oxides of carbon, fumes, and smoke may be produced.

11. TOXICOLOGICAL INFORMATION

MISCELLANEOUS:

No toxic effects are likely (other than contact-site irritation/damage).

12. ECOLOGICAL INFORMATION

Biodegrades readily under aerobic and anaerobic conditions. No tendency to bioaccumulate.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Treat or dispose of waste material as a weak acid in accordance with all local, state/provincial, and national requirements.



14. TRANSPORTATION INFORMATION

PRODUCT LABEL.....	Vinegar. concentrated
DOT SHIPPING NAME.....	Not Applicable
TECHNICAL SHIPPING NAME.....	Not Applicable
DOT HAZARD CLASS.....	Not Applicable
UN NUMBER.....	Not Applicable for vinegar containing less than 25% acetic acid, provided packaging complies with ADR Special Provision 647; UN2790 for vinegar containing more than 25% acetic acid
PRODUCT RQ (lbs).....	Quantity containing the equivalent of 5000 lb of 100% acetic acid, (e.g.,16,667 lb of vinegar containing 30% acetic acid)
DOT LABEL.....	Not Applicable

15. REGULATORY INFORMATION

Canadian Disclosure List
acetic acid (64-19-7)

CERCLA Hazardous Substances
acetic acid (64-19-7) -- RQ = quantity containing 5,000 lb of 100% acetic acid; (e.g., 16,667 lb of 30% acetic acid)

FDA (FOOD AND DRUG ADMINISTRATION):
Material is a GRAS (Generally Recognized as Safe) food ingredient.

16. OTHER INFORMATION

The information in the MSDS related to this specific material. It is the user's responsibility to evaluate the applicability of this information for their particular conditions of storage, handling, and use.