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K00364



MATERIAL SAFETY DATA SHEET

ACETIC ACID
ETHANOIC ACID
ETHYLIC ACID
CH₃COOH

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NCP ALCOHOLS
SEA COW LAKE ROAD
DURBAN
SOUTH AFRICA

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1. PRODUCT IDENTIFICATION

TRADE NAME	Spirit Vinegar
CHEMICAL FAMILY	Carboxylic Acid
CHEMICAL NAME	Acetic Acid
SYNONYMS	Ethanoic Acid, Ethylic Acid, Methane carboxylic Acid
CHEMICAL ABSTRACTS No.	64-19-7 (Acetic Acid)
NIOSH No.	AF 1225000 (Acetic Acid)
HAZCHEM CODE	2P
UN No.	2790

2. COMPOSITION

HAZARDOUS COMPONENTS	Acetic Acid
EEC CLASSIFICATION	Not available
R PHRASES	R10, R35, R34 (Acetic Acid)
S PHRASES	S2, S23, S26 (Acetic Acid)

3. HAZARD IDENTIFICATION

MAIN HAZARDS

Vinegar is an irritant to eyes, skin and respiratory tract.

CHEMICAL HAZARDS

Vinegar is corrosive to many metals and may liberate flammable and explosive hydrogen. Vinegar reacts with basic materials such sodium carbonate.

BIOLOGICAL HAZARDS

If ingested in large amounts vinegar may cause pain, irritation and burns in the mouth, gullet and stomach

HEALTH EFFECTS: - EYES

Eye contact with vinegar causes immediate pain, irritation, and may cause conjunctivitis and corneal damage.

HEALTH EFFECTS - SKIN

Vinegar may cause slight irritation to normal or abraded skin.

HEALTH EFFECTS: - INGESTION

If ingested in large amounts vinegar may cause pain, irritation and burns in the mouth, gullet and stomach.



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HEALTH EFFECTS - INHALATION

Vinegar vapour is irritating to the respiratory tract, membranes lining the nose, throat and lungs. Conjunctival and upper respiratory tract irritation and hyperkeratotic dermatitis have been reported in workers exposed for over two years to mean airborne acetic acid concentrations of 0,125 mg/l.

CARCINOGENICITY

Vinegar has been used as a food additive for a considerable period of time and there is no evidence to indicate that it is a potential carcinogen.

MUTAGENICITY

In several studies, acetic acid was not mutagenic in the Salmonella/microsome test.

REPRODUCTIVE HAZARDS

No teratogenic effects were reported in rabbits following administration of apple cider vinegar (47).



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4. FIRST AID MEASURES

PRODUCT IN EYE

Immediately flush the contaminated eye(s) with gently flowing water for 20 minutes, by the clock, holding the eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Obtain medical attention immediately.

PRODUCT ON SKIN

Avoid direct contact with this vinegar. Wear impervious protective gloves, if necessary. Flush contaminated area with running water. Remove contaminated clothing, and shoes. Obtain medical attention if irritation persists. Completely decontaminate clothing, and shoes before re-use.

PRODUCT INGESTED

Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. **DO NOT INDUCE VOMITING.** Have victim drink 240 to 300 ml of water. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately (avoid mouth-to-mouth contact). Obtain medical attention immediately.

PRODUCT INHALED

Move victim to fresh air. If breathing has stopped, trained personnel should begin artificial respiration or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. If breathing is difficult, oxygen may be beneficial if administered by a person trained in its use, preferably on a physician's advice. Obtain medical attention immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Under normal conditions vinegar is unlikely to be flammable however, should this occur use carbon dioxide, dry chemical powder, alcohol foam or water spray to extinguish any fires.

SPECIAL HAZARDS

Flammable	5,4 – 16% v/v (Acetic Acid)
Autoignition Temp.	465°C (Acetic Acid)

PROTECTIVE CLOTHING

Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS



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Restrict access to area until completion of the cleanup. Ensure that the cleanup is conducted by trained personnel only.

Protective clothing should be worn to prevent excessive skin contact. Vinegar should be handled wearing an approved respirator, Neoprene, butyl or natural rubber gauntlets or gloves, safety goggles and other protective clothing.

ENVIRONMENTAL PRECAUTIONS

Keep non-neutralized material out of sewers, storm drains, surface waters, and soil
Toxic to aquatic life at low concentrations.

CLEAN-UP METHODS

Small Spills

Ventilate the area and wear a laboratory coat or acid-proof overalls, gloves, and safety boots. Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labelled containers. Flush area with water. Contaminated absorbent material may pose the same hazards as the spilled product.

Large Spills

Contact Fire and emergency services and supplier for advice.

Do not touch spilled material. Prevent material from entering sewers or confined spaces. Stop or reduce leak if safe to do so. Contain spill with earth, sand, or absorbent material which does not react with spilled material. Remove liquid by pumps or vacuum equipment. Place in suitable, covered, labelled containers for removal and disposal at a controlled site.

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate state and regulatory agencies to ascertain proper disposal procedures.

Flush spill area with a large volume of water and allow to drain to a waste treatment system



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7. HANDLING AND STORAGE

SUITABLE MATERIALS

Vinegar should be stored in rubber-lined, polythene-lined, stainless steel or glass-lined vessels.

UNSUITABLE MATERIALS

Most Metals except aluminium and stainless steel may react with vinegar..

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE STANDARDS

HSE	10 ppm (25 mg/m ³) (Acetic Acid)
MAK	10 ppm (25 mg/m ³) (Acetic Acid)
ACGIH	10 ppm (25 mg/m ³) (Acetic Acid)

ENGINEERING CONTROL MEASURES

Engineering control methods to reduce hazardous exposures are preferred. Methods include mechanical ventilation (dilution and local exhaust), process or personnel enclosure, control of process conditions, and process modifications.

Administrative controls and personal protective equipment may also be required. Use local exhaust ventilation, and process enclosure if necessary, to control airborne mist and vapours. Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Supply sufficient replacement air to make up for air removed by exhaust systems.

PERSONAL PROTECTION - RESPIRATORY

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection. Have appropriate equipment available for use in emergencies such as spills.

PERSONAL PROTECTION - HAND

Rubber or Neoprene gloves are recommended.

PERSONAL PROTECTION - EYE

Chemical safety goggles. A face shield may also be necessary.

PERSONAL PROTECTION - SKIN

Impervious gloves, coveralls, boots, and/or other resistant protective clothing. Have a safety shower/eye-wash fountain readily available in the immediate work area.



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9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colourless water-like liquid
ODOUR	Sharp vinegary odour and burning taste
pH	< 1
BOILING POINT/RANGE	105°C
MELTING POINT/RANGE	-3°C
FLASH POINT	Not applicable
FLAMMABILITY	5,4 - 16 % v/v (Acetic Acid)
AUTOFLAMMABILITY	465°C (Acetic Acid)
EXPLOSIVE PROPERTIES	None
OXIDISING PROPERTIES	None
VAPOUR PRESSURE	20 mm Hg at 20°C
DENSITY	1014 kg/m ³ at 20°C
SOLUBILITY - WATER	Completely miscible with water.



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10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID

Metals and basic substances.

INCOMPATIBLE MATERIALS

Most metals (except aluminium) and bases.

HAZARDOUS DECOMPOSITION PRODUCTS

None

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

See Section 3.

SKIN AND EYE CONTACT

See Section 3.

CARCINOGENICITY

See Section 3.

MUTAGENICITY

See Section 3.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY - FISH	No data available
AQUATIC TOXICITY - DAPHNIA	No data available
AQUATIC TOXICITY - ALGAE	No data available
BIODEGRADABILITY	No data available
BIO-ACCUMULATION	No data available
MOBILITY	No data available
GERMAN WGK	No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS



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Only under conditions approved by local authorities. See also Section 6.

DISPOSAL OF PACKAGING

Empty containers may contain harmful residues and are subject to proper waste disposal.

Always obey hazard warnings and handle empty containers as if they were full.

14. TRANSPORT INFORMATION

UN No.	2790
SUBSTANCE IDENTITY No.	
ADR/RID CLASS	Not available
ADR/RID ITEM No.	Not available
ADR/RID HAZARD IDENTITY No.	Not available
IMDG - SHIPPING NAME	Not regulated
IMDG - CLASS	
IMDG - PACKAGING GROUP	
IMDG - MARINE POLLUTANT	
IMDG - EMS No.	Not available
IMDG - MFAG TABLE No.	Not available
IATA - SHIPPING NAME	
IATA - SUBSIDIARY RISK(S)	Corrosive
ADNR - CLASS	Not available
UK - DESCRIPTION	Not available
UK - EMERGENCY ACTION CODE	Not available
UK - CLASSIFICATION	Not available
TREMCARD No.	



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15. REGULATORY INFORMATION

<u>EEC HAZARD CLASSIFICATION</u>	Not available
<u>RISK PHRASES</u>	R10, R35 (Acetic Acid)
<u>SAFETY PHRASES</u>	S2, S23, S26 (Acetic Acid)
<u>NATIONAL LEGISLATION</u>	Hazardous Substances Act 15 of 1973 and Regulations, Occupational Health and Safety Act 85 of 1993 and Regulations.

16. OTHER INFORMATION

CAS No.	64-19-7 (Acetic Acid)
EINECS No.	Not available
EEC ANNEX 1 No.	Not available
MITI No.	Not available
FDA LIST No.	Not available
LISTING - TOSCA	Not available
LISTING - ACOIN	Not available
LISTING - CANADIAN DSL/NDSL	Not available
NOTIFICATION - EEC	Not available
NOTIFICATION - USA	Not available

APPENDIX

MSDS PREPARATION DATE 1994-08-10
MSDS SERIAL No. V001/MS1
COMPILED BY D D LIEBENBERG

SOURCES OF INFORMATION

1. Chemical Safety Data Sheets - Volume 3 - Royal Society of Chemistry Information Services. See below.
 2. Hazardous Chemicals Data Book Environmental Health Review No. 4. Edited by G. Weiss.
 3. MSDS - Canadian Centre for Occupational Health and Safety.
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EXCLUSION OF LIABILITY

The NCP Alcohols believes that this information is correct at date of publication but does not warrant the accuracy thereof. The use of the product designated herein will be at the sole risk of the user and NCP Alcohols will not accept any liability for any loss or damage, including consequential loss, howsoever caused by or arising from the use of this information of the use, application, adaption or processing of the product described herein or its use in combination with any other product, material or in any process.



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