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CLEAN MACHINE MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Information

Product Name: Acetic Acid Solutions (48-98%)
Product Code: Not Determined
Synonyms: Acetic Acid; Glacial Acetic Acid; Ethanoic Acid;
Methane carboxylic Acid; Vinegar Acid; Ethylic Acid;
Pyroligneus Acid
CAS Number: Mixture
Manufacturer/Supplier: MS Continental Marketing
Address: 1001 Pomona Rd
Corona, CA 92882
24 Hour Emergency Number: (909) 808-8888
Date Prepared:

2. Composition/Information on Ingredients

Ingredient	CAS Number	%Weight
Acetic Acid	64-19-7	40-98
Water	7732-18-5	2-60
(See Section 8 for Exposure Limits)		

3. Hazard Identification

Emergency Overview:

DANGER! Combustible liquid & vapor. Harmful or fatal if swallowed or inhaled. Stable oxidizer: subject to violent reactions. Causes Severe irritation and burns to skin and eyes. Vapors cause severe respiratory tract irritation.

Potential Health Effects:

Eye Contact: Extremely irritating and corrosive. Direct contact may cause conjunctivitis, redness, pain, blurred vision, conjunctive and corneal destruction and permanent injury.

Skin contact: Extremely irritating and corrosive. Contact may cause redness, itching, inflammation, burns, blistering and tissue damage.

Inhalation: May cause severe irritation to the respiratory tract. Exposure to fume or mist may cause chemical pneumonitis, bronchitis and pulmonary edema. Severe exposure may result in lung tissue

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damage and corrosion of the mucous membranes. Chronic exposure may produce erosion of the teeth and jaw necrosis.

Ingestion: Moderately toxic. Corrosive. May cause burning pain of the mouth, throat and abdomen and coughing and constriction of the throat, followed by nausea, abdominal spasms, vomiting, hematemesis and diarrhea. May also cause hematuria, albuminuria, nephrosis, asphyxia and death.

Special Toxic Effects: Mutagenic in non-mammalian test systems.

4. First Aid Measures

Eye: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek immediate medical attention!

Skin: Remove contaminated clothing immediately. Wash the area of contact thoroughly with soap and water. Seek immediate medical attention! Discard contaminated clothing and leather goods.

Inhalation: Remove exposed person from source of exposure. If not breathing, ensure clear airway and institute cardiopulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Keep affected person warm and at rest. Seek immediate medical attention!

Ingestion: Do not induce vomiting. If victim is conscious, give one-three glasses of water or milk to dilute stomach contents. Keep affected person warm and at rest. Seek immediate medical attention!

Note to Physician: Inhalation-Delayed pulmonary edema may occur and patient should be maintained under close observation for this complication. Ingestion-The agent is an acid corrosive and produced coagulative necrosis of the buccal cavity, esophagus and stomach. While treatment of acute ingestion is controversial, induction of emesis and use of carbon dioxide producing and-acids are contraindicated. Nasal gastric intubations should be undertaken only with the risk of perforation recognized in contrast to the value of gastric aspiration and lavage. Late complications may include esophageal, gastric or pyloric stenosis.

5. Firefighting Measures

Flashpoint: 131° F (84%); 107.6° F (98%) **Lower Flammability Limit:** >5.40 (98%)
Auto ignition Temperature: 427.00°C **Upper Flammability Limit:** <19.00 (98%)

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(800.6°F) 98%

Basic Firefighting Procedures:

Use water spray, dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire. Use water spray to cool fire-exposed containers, structures and to protect personnel. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop leak. Use water to dilute spills and to flush them away from sources of ignition. DO NOT flush down public sewers or other drainage systems. Exposed firefighters must wear MSHA/NIOSH approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

6. Accidental Releases Measures

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low area. (Also see Personal Protection Information section.) Do not touch or walk through spilled material; stop leak if you can do it without risk. Small Spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small Dry Spills: Dike far ahead of liquid spill for later disposal.

7. Handling and Storage

Store in tightly closed containers in cool, dry isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Store out of direct sunlight. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion.

8. Exposure Controls/ Personal Protection

Exposure Limits:

Ingredient	OSHA		ACGIH	
	TWA	STEL	TWA	STEL
Acetic Acid	10ppm	None	10ppm	15ppm
Water	None	None	None	None

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Personal Protection Equipment (PPE)

Eye Protection: Wear chemical safety goggles and face shield. Do not wear contact lenses when working with this substance. Have eye washing facilities readily available where eye contact can occur.

Skin Protection: Wear gloves and protective clothing to prevent skin contact. Suggested protective materials are: Neoprene. Provide safety showers at any location where skin contact can occur.

Respiratory Protection: If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. Normally, a NIOSH approved respirator for organic vapors is generally acceptable. For high concentrations and for oxygen-deficient atmospheres, use a NIOSH approved air-supplier respirator. Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures. Respiratory protection may be needed for non-routine or emergency situations.

9. Physical and Chemical Properties

Boiling Point:	102.00-118.00°C (215.6-244.4°F)	Specific Gravity:	1.0490-1.0680@ 20°C
Melting Point:	< 16.00°C (61°F)	% Volatile:	Not Determined
Vapor Pressure:	11.00–14.00 mm Hg @ 20°C (M.BAR)	Evaporation Rate (Water=1):	Not Determined
% Solubility in Water:	100.00	Octanol/Water Partition Coefficient:	Not Determined
Pour Point:	Not Applicable	Ph:	Not Determined
Molecular Formula:	Mixture	Molecular Weight:	Not Applicable
Odor/Appearance:	Clear, colorless liquid with a strong vinegar-like odor		

10. Stability and Reactivity

Stability/Incompatibility:

Stable under conditions of normal use. Avoid contact with oxidizers and reducing agents.

Hazardous Reactions/Decompositions Products:

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Irritating and toxic fumes may be emitted upon decomposition. Combustion may produce CO and CO₂. Reactions with metals may produce hydrogen gas. This can be dangerously reactive with strong acids or oxidizing agents.

11. Disposal Considerations

This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however it could be characteristically hazardous if it is considered toxic, corrosive, ignitable, or reactive according to Federal definitions (40 CFR 231). Additionally, it could be designated as hazardous according to state regulations. This substance could also become a hazardous waste if it is mixed with or comes in contact with hazardous waste. Check 40 CFR 262, 263, 264, 268, and 270 apply. Chemical additions, processing and otherwise altering this material may make the waste management information presented in the MSDS incomplete, inaccurate or otherwise inappropriate. The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

12. Transportation Information

U.S. Department of Transportation (DOT)

Proper Shipping Name:	Acetic Acid Solution
Hazard Class:	8
UN/NA Code:	UN2789 (>80% Acetic Acid); UN2790 (≤80% Acetic Acid)
Packing Group:	PG II
Bill of Lading Description:	Acetic Solution, 8, UN2789, PG II, RQ.
Labels Required:	Corrosive, Flammable Liquid (>80% Acetic Acid)
Placards:	Corrosive

13. Regulatory Information

U.S. Federal Regulations

Comprehensive Environmental Response Compensation and Liability Act of 1980

(CERLA): The reportable quantity for Acetic Acid is 5,000 pounds. This material contains one or more constituents regulated as hazardous substances under U.S. Federal Law. Any spill or other release, or substantial threat of release, of this material to

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the air, water or land (unless entirely contained in the workplace) equal to or in excess of the reportable quantity must be reported immediately to the National Response Center (800) 424-8802. Also contact appropriate state and local regulatory agencies. Contact the Coast Guard if spilled into navigable waterways under their jurisdiction. Failure to report may result in substantial civil and criminal penalties.

Toxic Substance Control Act (TSCA): All components of this product are listed on the TSCA inventory.

Clean Water Act (CWA): Component(s) are listed under various sections of the Clean Water Act. Contact your local / state authorities to determine if substances are regulated under their jurisdiction.

Clear Air Act (CAA): Neither the product or its components are listed under federal regulations. Contact your local/state authorities to determine if substances are regulated under their jurisdiction.

Superfund Amendments and Reauthorization Act (SARA) Title III Information:
Listed below are the hazard categories for SARA Section 311/312 (40 CFR 370):

Immediate Hazard:	X	Delayed Hazard:	X	Fire Hazard:	X
Pressure Hazard:	---	Reactivity Hazard:	---		

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372):

Ingredient:	CAS Number:	Maximum %
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No ingredients listed in this section

Sate Regulations

California:

This product contains the following chemical(s) know in the State of California to cause cancer, birth defects or reproductive harm.

International Regulations

Canadian Environmental Protection Act

This product contains the following chemical(s) which are listed on the Domestic Substances List:

Ingredient:	CAS Number:
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Acetic Acid	64-19-7
Water	7732-18-5

This product contains the following chemical(s) which are listed on the Non-Domestic Substance List:

Ingredient:	CAS Number:
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No ingredients listed in this section

Canadian Workplace Hazardous Materials Information Systems (WHMIS):

The following Canadian Workplace Hazardous Materials Information System (WHMIS) categories apply to this product:

Compressed Gas:	--	Flammable/Combustible:	X	Oxidizer:	--
Acutely Toxic:	X	Other Toxic Effects:	X	Biohazardous:	--
Corrosive:	X	Dangerously Reactive:	--		

14. Other Information

National Fire Protection Association (NFPA) Ratings:

Health: 2 Flammability: 2 Reactivity: 1 Special Hazard: --

All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate Los Angeles Chemical Company makes no representation as to its accuracy or sufficiency. Conditions of use are beyond Los Angeles Chemical Company's control and therefore users are responsible to verify this data under their own operating conditions to determine whether this product is suitable for their particular purposes and they assume all risks of their use, handling, and disposal of the product, or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in another process.