

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product identifier****Product name** MIXED ACID REAGENT**Other means of identification****Product Code(s)** V-6278**Recommended use of the chemical and restrictions on use****Recommended Use** Use as a laboratory reagent. Laboratory chemicals. Industrial (not for food or food contact use).**Details of the supplier of the safety data sheet****Manufacturer Address**LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620 USA
T 410-778-3100
F 410-778-9748**Emergency telephone numbers**

(CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Serious eye damage/eye irritation

Category 2A

EMERGENCY OVERVIEW**WARNING****Hazard statements**

Causes serious eye irritation.

**Appearance** Clear Blue green**Physical state** liquid**Odor** vinegar**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling. Wear eye/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF SWALLOWED: Drink 1 or 2 glasses of water. Call a physician immediately.

Storage:

Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents/containers in accordance with local regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS*

Chemical name	CAS No.	Weight-%
Acetic acid	64-19-7	2
Citric acid	77-92-9	4
Sodium chloride USP	7647-14-5	10
Ammonium chloride	12125-02-9	17
Water	7732-18-5	to 100%

4. FIRST AID MEASURES**First Aid Measures****General advice**

Do not get in eyes, on skin, or on clothing. Show this safety data sheet to the doctor in attendance.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Consult a physician if necessary.

Inhalation	Remove to fresh air. If symptoms persist, call a physician.
Ingestion	Drink plenty of water. Consult a physician if necessary.
<u>Self-protection of the first aider</u>	Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Notes to Physician	Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing.
Environmental precautions	See Section 12 for additional Ecological Information. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Methods and material for containment and cleaning up

Methods for containment	Dispose of contents/containers in accordance with local regulations. Absorb/Cover spill with sodium bicarbonate or sodium carbonate to neutralize, then place in a chemical waste container for later disposal.
Methods for cleaning up	After cleaning, flush away traces with water. If local regulations permit, rinse to drain with excess water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.
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Conditions for safe storage, including any incompatibilities

Storage:	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Keep out of the reach of children.
Incompatible Products	Alkalis. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
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Acetic acid 64-19-7	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m ³	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m ³ STEL: 15 ppm STEL: 37 mg/m ³
Citric acid 77-92-9	*-	*-	Not Established
Sodium chloride USP 7647-14-5	*-	*-	Not Established
Ammonium chloride 12125-02-9	STEL: 20 mg/m ³ fume TWA: 10 mg/m ³ fume	(vacated) TWA: 10 mg/m ³ fume (vacated) STEL: 20 mg/m ³ fume	TWA: 10 mg/m ³ fume STEL: 20 mg/m ³ fume
Water 7732-18-5	*-	*-	Not Established

Appropriate engineering controls**Engineering Measures**

Provide appropriate exhaust ventilation at places where dust is formed. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Wear safety glasses with side shields (or goggles). Avoid contact with eyes.

Skin and body protection

Gloves & Lab Coat. Impervious clothing. Protective gloves. Rubber gloves. Nitrile rubber.

Respiratory protection

Maintain adequate ventilation.

Hygiene Measures

Avoid contact with eyes, skin and clothing. Handle in accordance with good industrial hygiene and safety practice. Wash hands and face before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	vinegar
Appearance	Clear Blue green		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	2-3	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 100 °C / 212 °F	
Flash point	Not Applicable	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No data available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Stability	Stable.
Hazardous Reactions	Hazardous polymerization does not occur.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials	Alkalis. Strong oxidizing agents. Strong bases.
Hazardous decomposition products	Ammonia. Hydrogen chloride. Sodium oxides.

11. TOXICOLOGICAL INFORMATION

Product Information Product does not present an acute toxicity hazard based on known or supplied information

Information on likely routes of exposure

Inhalation	None known.
Eye contact	May cause temporary eye irritation.
Skin contact	Substance may cause slight skin irritation.
Ingestion	May be harmful if swallowed. May cause gastrointestinal discomfort if consumed in large amounts.

Component identification

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Acetic acid 64-19-7	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/L (Rat) 4 h
Citric acid 77-92-9	= 3 g/kg (Rat) = 3000 mg/kg (Rat)	Not Established	Not Established
Sodium chloride USP 7647-14-5	= 3 g/kg (Rat)	> 10 g/kg (Rabbit)	> 42 g/m ³ (Rat) 1 h
Ammonium chloride 12125-02-9	= 1650 mg/kg (Rat)	Not Established	Not Established
Water 7732-18-5	> 90 mL/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Carcinogenicity There are no known carcinogenic chemicals in this product.

Chemical name	ACGIH	IARC	NTP	OSHA
Acetic acid 64-19-7	Not Established	Not Established	Not Established	Not Established
Citric acid 77-92-9	Not Established	Not Established	Not Established	Not Established
Sodium chloride USP 7647-14-5	Not Established	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	Not Established	Not Established	Not Established	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

ATEmix (oral)	6,421.00 mg/kg
ATEmix (dermal)	34,641.00 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity**Unknown Aquatic Toxicity** 0.27 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Acetic acid 64-19-7	Not Established	75: 96 h Lepomis macrochirus mg/L LC50 static 79: 96 h Pimephales promelas mg/L LC50 static	47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static
Citric acid 77-92-9	Not Established	1516: 96 h Lepomis macrochirus mg/L LC50 static	120: 72 h Daphnia magna mg/L EC50
Sodium chloride USP 7647-14-5	Not Established	4747 - 7824: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 5560 - 6080: 96 h Lepomis macrochirus mg/L LC50 flow-through 6020 - 7070: 96 h Pimephales promelas mg/L LC50 static 6420 - 6700: 96 h Pimephales promelas mg/L LC50 static 12946: 96 h Lepomis macrochirus mg/L LC50 static 7050: 96 h Pimephales promelas mg/L LC50 semi-static	340.7 - 469.2: 48 h Daphnia magna mg/L EC50 Static 1000: 48 h Daphnia magna mg/L EC50
Ammonium chloride 12125-02-9	Not Established	209: 96 h Cyprinus carpio mg/L LC50 static 725: 24 h Lepomis macrochirus mg/L LC50	202: 24 h Daphnia magna mg/L LC50
Water 7732-18-5	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Acetic acid 64-19-7	-0.31
Citric acid 77-92-9	-1.72
Sodium chloride USP 7647-14-5	Not Established
Ammonium chloride 12125-02-9	Not Established
Water 7732-18-5	Not Established

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Dispose of contents/containers in accordance with local regulations.

Contaminated packaging

Dispose of waste product or used containers according to local regulations.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Acetic acid 64-19-7	Not Established	-	Not Established	Not Established
Citric acid 77-92-9	Not Established	-	Not Established	Not Established
Sodium chloride USP 7647-14-5	Not Established	-	Not Established	Not Established
Ammonium chloride 12125-02-9	Not Established	-	Not Established	Not Established
Water 7732-18-5	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes

Acetic acid 64-19-7	Not Established	Not Established	Not Established	Not Established
Citric acid 77-92-9	Not Established	Not Established	Not Established	Not Established
Sodium chloride USP 7647-14-5	Not Established	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	Not Established	Not Established	Not Established	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Acetic acid 64-19-7	Toxic Corrosive Ignitable
Citric acid 77-92-9	*-
Sodium chloride USP 7647-14-5	*-
Ammonium chloride 12125-02-9	*-
Water 7732-18-5	*-

14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
RID	Not regulated
ADR	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Acetic acid 64-19-7	Not Established
Citric acid 77-92-9	Not Established
Sodium chloride USP 7647-14-5	Not Established
Ammonium chloride 12125-02-9	1.0
Water 7732-18-5	Not Established

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid 64-19-7	5000 lb	Not Established	Not Established	X
Citric acid 77-92-9	Not Established	Not Established	Not Established	Not Established
Sodium chloride USP 7647-14-5	Not Established	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	5000 lb	Not Established	Not Established	X
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Acetic acid 64-19-7	5000 lb	Not Established	RQ 5000 lb final RQ RQ 2270 kg final RQ
Citric acid 77-92-9	-	Not Established	-
Sodium chloride USP 7647-14-5	-	Not Established	-
Ammonium chloride 12125-02-9	5000 lb	Not Established	RQ 5000 lb final RQ RQ 2270 kg final RQ
Water 7732-18-5	-	Not Established	-

US State Regulations

This product does not contain any Proposition 65 chemicals.

Chemical name	California Proposition 65
Acetic acid 64-19-7	Not Established

Citric acid 77-92-9	Not Established
Sodium chloride USP 7647-14-5	Not Established
Ammonium chloride 12125-02-9	Not Established
Water 7732-18-5	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Acetic acid 64-19-7	X	X	X
Citric acid 77-92-9	Not Established	Not Established	Not Established
Sodium chloride USP 7647-14-5	Not Established	Not Established	Not Established
Ammonium chloride 12125-02-9	X	X	X
Water 7732-18-5	Not Established	Not Established	X

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Acetic acid 64-19-7	Add POISON to label, 16 CFR 1500.129

16. OTHER INFORMATION**NFPA**

Health hazard 1

Flammability 0

Instability 0

Physical and Chemical
Hazards N/A**Health hazard 1**

Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by
Issuing Date
Revision Date
Disclaimer

Regulatory Affairs Department
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The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet