Safety Data Sheet

Issuing Date Sep-14-2015 **Revision Number** 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name **Nitrogen Dioxide #1 Absorbing Solution**

Other means of identification

Product Code(s) **7684**
UN-No 2790

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals. Industrial (not for food or food contact use). Use as a laboratory reagent.

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 number

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

2. HAZARDS IDENTIFICATION

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Physical hazards Flammable Liquids.	Category 3

EMERGENCY OVERVIEW

DANGER

Hazard statements
Causes severe skin burns and eye damage. May cause an allergic skin reaction. .
FLAMMABLE LIQUID AND VAPOR.

Appearance Clear, colorless **Physical state** liquid **Odor** pungent vinegar

Precautionary Statements - Prevention
Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed.

Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep out of the reach of children.

Immediately call a POISON CENTER or physician.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water Wash contaminated clothing before reuse If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED Rinse mouth Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up. Store in a well-ventilated place. Keep cool.

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Sulfanilic acid	121-57-3	0.5
Acetic acid	64-19-7	14
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. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. Call a physician immediately.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Excess acid on skin can be neutralized with a 2% solution of sodium bicarbonate in water. Call a physician immediately.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.

Ingestion Do NOT induce vomiting. Drink plenty of water. Clean mouth with water. Call a physician immediately. Never give anything by mouth to an unconscious person.

Self-protection of the first aider Use personal protective equipment. See section 8 for more information. 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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO_2, water spray or alcohol-resistant foam.

Specific hazards arising from the chemical
Contact with most metals causes the formation of explosive and flammable hydrogen gas.

Protective equipment and precautions for firefighters
Above flashpoint vapor-air mixtues are explosive within flammable limits. Vapors may travel to source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment. See section 8. Avoid contact with skin, eyes, and inhalation of vapors.

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for cleaning up Neutralize spill with alkaline material (sodium bicarbonate), being careful to prevent splattering, then containerize slurry and hold for later disposal. If local regulations permit, dilute slurry with water and rinse to drain with excess water. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature. Separate from acids and alkalis. Store away from strong bases or metals. Keep away from direct sunlight. Store away from incompatible materials. Keep out of the reach of children.

Incompatible Products Strong oxidizing agents, strong acids, and strong bases. Metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfanilic acid 121-57-3	-	-	Not Established
Acetic acid 64-19-7	15 ppm STEL TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m^3	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m^3 STEL: 15 ppm STEL: 37 mg/m^3
Water 7732-18-5	-	-	Not Established

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles). Face protection shield.

Skin and body protection Gloves & Lab Coat. Chemical resistant apron.

Respiratory protection Use only with adequate ventilation. Handle in an enclosing hood with exhaust ventilation. In

case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid		
Appearance	Clear, colorless	**Odor**	pungent vinegar

Property	**Values**	**Remarks • Method**
pH	2	No information available
Melting point / freezing point	No information available	
Boiling point / boiling range	Glacial Acetic Acid, 118 °C No information available	
Flash point	39 °C / 102 °F	Closed cup For Glacial Acetic acid
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	19.9% for Glacial Acetic Acid	
Lower flammability limit:	4% for Glacial Acetic Acid	
Vapor pressure	11 mmHg @ 20°C	For Glacial Acetic acid
Vapor density	2.1	(air=1) For Glacial Acetic acid
Specific gravity	No information available	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	Glacial Acetic Acid, 516 °C	
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 under normal conditions of use and storage. Heat and sunlight can contribute to instability.

Hazardous Reactions Thermal decomposition may form CO/CO_2. May react with metals to produce flammable hydrogen gas.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks. Direct sunlight. Incompatible products.

Incompatible materials Strong oxidizing agents, strong acids, and strong bases. Metals.

Hazardous decomposition products Carbon monoxide (CO). Carbon dioxide (CO_2).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfanilic acid 121-57-3	= 12300 mg/kg (Rat)	Not Established	Not Established
Acetic acid 64-19-7	= 3310 mg/kg (Rat)	= 1060 mg/kg (Rabbit)	= 11.4 mg/L (Rat) 4 h
Water 7732-18-5	> 90 mL/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Carcinogenicity Acetic Acid has been investigated as a mutagen, reproductive effector.

Chemical name	ACGIH	IARC	NTP	OSHA
Sulfanilic acid 121-57-3	Not Established	Not Established	Not Established	Not Established
Acetic acid 64-19-7	Not Established	Not Established	Not Established	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

Target organ effects Eyes, Skin, Respiratory System.

ATEmix (oral) 23643
ATEmix (dermal) 7571 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Sulfanilic acid 121-57-3	91: 72 h Desmodesmus subspicatus mg/L EC50	77.8 - 129.6: 96 h Pimephales promelas mg/L LC50 static	85.66: 48 h Daphnia magna mg/L EC50
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
Water 7732-18-5	Not Established	Not Established	Not Established

Persistence and degradability

If released to water or soil, Acetic acid will readily biodegrade.

Bioaccumulation/Accumulation

Acetic acid shows no potential for biological accumulation. (BCF <1).

Chemical name	Log Pow
Sulfanilic acid 121-57-3	-0.9
Acetic acid 64-19-7	-0.31
Water 7732-18-5	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods Dispose according to federal, state, and local regulations. If permitted, neutralize reagent with sodium bicarbonate/sodium carbonate, add slurry to large volume of water to dilute, rinse to drain with excess water.

Contaminated packaging Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Sulfanilic acid 121-57-3	Not Established	-	Not Established	Not Established
Acetic acid 64-19-7	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
Sulfanilic acid 121-57-3	Not Established	Not Established	Not Established	Not Established
Acetic acid 64-19-7	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
Sulfanilic acid 121-57-3	-
Acetic acid 64-19-7	-
Water 7732-18-5	-

14. TRANSPORT INFORMATION

DOT

Proper shipping name ACETIC ACID SOLUTION
UN-No 2790
Hazard Class 8
Packing group III
Reportable Quantity (RQ) 5000

IATA

Proper shipping name ACETIC ACID SOLUTION
UN-No 2790
Hazard Class 8
Packing group III

IMDG/IMO

Proper shipping name ACETIC ACID SOLUTION
UN-No 2790
Hazard Class 8
Packing group III

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
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 does not contain any 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 %
Sulfanilic acid 121-57-3	Not Established
Acetic acid 64-19-7	Not Established
Water 7732-18-5	Not Established

SARA 311/312 Hazard Categories

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

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
Sulfanilic acid 121-57-3	Not Established	Not Established	Not Established	Not Established
Acetic acid 64-19-7	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
Sulfanilic acid 121-57-3	-	Not Established	-
Acetic acid 64-19-7	5000 lb	Not Established	RQ 5000 lb final RQ RQ 2270 kg final RQ
Water 7732-18-5	-	Not Established	-

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical name	California Proposition 65
Sulfanilic acid 121-57-3	Not Established
Acetic acid 64-19-7	Not Established
Water	Not Established

7732-18-5	

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfanilic acid 121-57-3	Not Established	Not Established	Not Established
Acetic acid 64-19-7	X	X	X
Water 7732-18-5	Not Established	Not Established	X

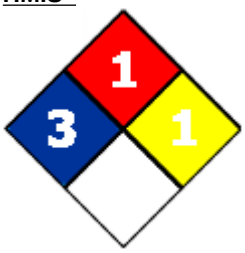
CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Acetic acid 64-19-7	Add POISON to label, 16 CFR 1500.129 (>=20%, free or chemically unneutralized)

16. OTHER INFORMATION

NFPA **Health hazard** 3 **Flammability** 1 **Instability** 1 **Physical and Chemical Hazards** N/A

HMIS **Health hazard** 3 **Flammability** 1 **Stability** 2



Health Hazard	3
Fire Hazard	1
Reactivity	2

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Disclaimer

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 Material Safety Data Sheet