

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

### Product identifier

**Product name** Manganese #2

### Other means of identification

**Product Code(s)** 5263

**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 2
Serious eye damage/eye irritation	Category 2
Carcinogenicity	Category 1B

### EMERGENCY OVERVIEW

#### **DANGER POISON**

#### **Hazard statements**

Causes skin irritation. Causes serious eye irritation. May cause cancer.



**Appearance** light yellow

**Physical state** liquid

**Odor** vinegar

#### **Precautionary Statements - Prevention**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Wear eye/face protection.

#### **Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention.

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.

If skin irritation occurs: Get medical advice/attention.

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

#### Precautionary Statements - Storage

Store locked up.

#### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

#### Other Hazards

Harmful to aquatic life with long lasting effects

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base)	101-61-1	<0.5
Sodium hydroxide	1310-73-2	<1
Acetic acid	64-19-7	20
Water	7732-18-5	to 100%

### 4. FIRST AID MEASURES

#### First Aid Measures

<b>General advice</b>	Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray.
<b>Eye contact</b>	Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. Call a physician immediately.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Consult a physician.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.
<b>Ingestion</b>	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.
<b>Self-protection of the first aider</b>	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<sub>2</sub>, water spray or alcohol-resistant foam.

#### 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** 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. Keep away from direct sunlight. Store away from incompatible materials. Keep out of the reach of children.

**Incompatible Products** Alkalis. Metals. Oxidizing agents. Strong acids.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
4,4'-Methylenebis(N,N-dimethyl)benzenamine (Michler's Base) 101-61-1	-	-	Not Established
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>
Acetic acid 64-19-7	15 ppm STEL TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m <sup>3</sup>	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m <sup>3</sup> STEL: 15 ppm STEL: 37 mg/m <sup>3</sup>
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).

**Skin and body protection** Wear protective gloves/clothing. Impervious clothing. Impervious gloves.

**Respiratory protection** 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	liquid	<b>Odor</b>	vinegar
<b>Appearance</b>	light yellow		
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
	pH		
	3		
<b>Melting point / freezing point</b>	No information available		
<b>Boiling point / boiling range</b>	118 °C / 244 °F	For Glacial Acetic acid	
<b>Flash point</b>	No information available	39°C (102°F) CC for Glacial Acetic Acid	
<b>Evaporation rate</b>			
<b>Flammability (solid, gas)</b>	No information available		
<b>Flammability Limit in Air</b>		For Glacial Acetic acid	
<b>Upper flammability limit:</b>	4.0		
<b>Lower flammability limit:</b>	19.9		
<b>Vapor pressure</b>	No information available		
<b>Vapor density</b>	>1 (Air=1)		
<b>Specific gravity</b>	No information available		
<b>Water solubility</b>	No information available		
<b>Solubility in other solvents</b>	No information available		
<b>Partition coefficient</b>	No information available		
<b>Autoignition temperature</b>	No information available	516°C (961°F) for Glacial Acetic Acid	
<b>Decomposition temperature</b>	No information available		
<b>Kinematic viscosity</b>	No information available		
<b>Dynamic viscosity</b>	No information available		
<b>Explosive properties</b>	No information available		
<b>Oxidizing properties</b>	No information available		

**Other Information**

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions of use and storage.
<b>Hazardous Reactions</b>	Thermal decomposition may form CO/CO <sub>2</sub> . May react with metals to produce flammable hydrogen gas.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Incompatible products. Ignitions sources - heat, sparks and open flames. Do not freeze.
<b>Incompatible materials</b>	Alkalis. Metals. Oxidizing agents. Strong acids.
<b>Hazardous decomposition products</b>	Carbon oxides (COx). Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	= 3160 mg/kg ( Rat )	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	= 1350 mg/kg ( Rabbit )	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**

Chemical name	ACGIH	IARC	NTP	OSHA
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	Not Established	Group 2B	Reasonably Anticipated	X
Sodium hydroxide 1310-73-2	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

**NTP (National Toxicology Program)**

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**

X - Present

**Chronic toxicity**

Chronic exposure to corrosive mists or vapors may cause erosion of the teeth.

**ATEmix (oral)**

16550

**ATEmix (dermal)**

5300 mg/kg

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Unknown Aquatic Toxicity** 78.95 % 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)
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	Not Established
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**

No information available.

**Bioaccumulation/Accumulation**

No information available.

Chemical name	Log Pow
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	Not Established
Sodium hydroxide 1310-73-2	Not Established
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
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	Not Established	-	Not Established	Not Established
Sodium hydroxide 1310-73-2	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
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	Not Established	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	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
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	-
Sodium hydroxide 1310-73-2	-
Acetic acid 64-19-7	-
Water 7732-18-5	-

### 14. TRANSPORT INFORMATION

**DOT**

**Proper shipping name** ACETIC ACID SOLUTION >10%, <50% ACID  
**UN-No** 2790  
**Hazard Class** 8  
**Packing group** III  
**Reportable Quantity (RQ)** 5000

**IATA**

**Proper shipping name** ACETIC ACID SOLUTION >10%, <50% ACID  
**UN-No** 2790  
**Hazard Class** 8  
**Packing group** III

**IMDG/IMO**

<b>Proper shipping name</b>	ACETIC ACID SOLUTION >10%, <50% ACID
<b>UN-No</b>	2790
<b>Hazard Class</b>	8
<b>Packing group</b>	III

## 15. REGULATORY INFORMATION

### International Inventories

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	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 %
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	0.1
Sodium hydroxide 1310-73-2	Not Established
Acetic acid 64-19-7	Not Established
Water 7732-18-5	Not Established

#### SARA 311/312 Hazard Categories

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire hazard</b>	Yes
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	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
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	Not Established	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Acetic acid	5000 lb	Not Established	Not Established	X

64-19-7				
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
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	-	Not Established	-
Sodium hydroxide 1310-73-2	1000 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ
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**

WARNING! This product contains a chemical known to the State of California to cause cancer

Chemical name	California Proposition 65
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	Carcinogen
Sodium hydroxide 1310-73-2	Not Established
Acetic acid 64-19-7	Not Established
Water 7732-18-5	Not Established

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
4,4'-Methylenebis(N,N-dimethyl) benzenamine (Michler's Base) 101-61-1	X	X	X
Sodium hydroxide 1310-73-2	X	X	X
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
Sodium hydroxide 1310-73-2	Banned, 16 CFR 1500.17 ( $\geq 10\%$ by weight in liquid drain cleaners); Add POISON to label, 16 CFR 1500.129 ( $\geq 10\%$ , free or chemically unneutralized)
Acetic acid 64-19-7	Add POISON to label, 16 CFR 1500.129 ( $\geq 20\%$ , free or chemically unneutralized)

**16. OTHER INFORMATION**

<b>NFPA</b>	Health hazard 3	Flammability 1	Instability 0	<b>Physical and Chemical Hazards</b> N/A
<b>HMIS</b>	Health hazard 3	Flammability 1	Stability 1	





Health Hazard	<b>3</b>
Fire Hazard	<b>1</b>
Reactivity	<b>1</b>

**Prepared by**

**Issuing Date**

**Revision Date**

**Reason for revision**

**Disclaimer**

Regulatory Affairs Department

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New US GHS format

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**