



PO Box 329 • 802 Washington Avenue • Chestertown, MD 21620 • USA

Telephone Number For Information 410-778-3100

24 Hour Emergency Number (CHEM-TEL) 800-255-3924

# MSDS

## Material Safety Data Sheet

### 1. Product Identification

**Product Code:**

V-6281

**Manufactured By:**

LaMotte Company

**Product Description:**

Color Developing Reagent

802 Washington Avenue

Chestertown, MD 21620

### 2. Composition/Information on Ingredients

Hazardous	Name	CAS #	%	OSHA PEL	ACGIH TLV
Yes	Ammonium Chloride	12125-02-9	52	10 mg/cubic m (fume)	10 mg/cubic m (fume)
No	Sodium Citrate dihydrate	6132-04-3	35	N/E	N/E
Yes	Manganous Sulfate monohydrate	10034-96-5	10	C 5 mg/cubic m manganese compounds as Mn	0.2 mg/cubic m elemental & inorganic as Mn
Yes	Sulfanilamide	63-74-1	2	N/E	N/E
Yes	N-1-naphthylethylenediamine dihydrochloride	1465-25-4	1	N/E	N/E

### 3. Hazards Overview

**Primary Route of Entry:** Inhalation Skin

Harmful if inhaled, swallowed or absorbed through skin. Irritating to eyes, skin, respiratory system.

**HMIS Hazard:** (Scale: 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Least)

Health: 1 Flammability: 0 Reactivity: 0

**Carcinogenicity:** None

#### **Other Health Related Comments:**

Manganese sulfate investigated as a tumorigen, mutagen, reproductive effector. (See Section 11)

### 4. First Aid Measures

**Eye Contact:** Immediately flush with water for 15 minutes. Consult physician.

**Skin Contact:** Flush thoroughly with water. Wash with soap and water. Consult physician.

**Ingestion:** Induce vomiting. Drink water. Consult a physician immediately.

**Inhalation:** Remove to fresh air.

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**Product Code: V-6281**

**Product Description: Color Developing Reagent**

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### **5. Fire Fighting Measures**

**Flash Point: N/A LEL: N/A UEL: N/A**

#### **Fire Rating**

**Extinguishing Media:** Not a fire hazard

**Special Fire Fighting Procedures:** N/A

**Hazardous Combustion and/or Decomposition Products:** CO<sub>x</sub>, ammonia

**Unusual Fire & Explosion Hazard:** N/A

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### **6. Accidental Release Measures**

Sweep up carefully. Dissolve in water and flush down drain with excess water.

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### **7. Handling & Storage**

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### **8. Exposure Controls/Personal Protection**

#### **Ventilation**

A system of local and/or general exhaust is recommended.

#### **Protection When Handling**

Gloves Eye Protection Lab Coat

**Work/Hygienic Practices:** Use with adequate ventilation. Do not breathe dust. Avoid contact with skin and clothing.

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### **9. Physical & Chemical Properties**

<b>Appearance:</b>	White Powder	<b>Boiling Point:</b>	N/A
		<b>Melting Point:</b>	Unknown
		<b>pH:</b>	7 (0.1g/10mL water)
<b>Odor:</b>	None	<b>Vapor Density:</b>	N/A
<b>Solubility in Water:</b>	Partially	<b>Vapor Pressure:</b>	N/A

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### **10. Stability & Reactivity**

**Stable:** Yes

**Conditions to Avoid:** Heat, moisture, air

**Materials to Avoid:** Strong alkalies, oxidizers, aqueous hypochlorites (bleach)

**Hazardous Decomposition Products:** CO<sub>x</sub>, ammonia

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**Product Code: V-6281****Product Description: Color Developing Reagent**

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**11. Toxicological Information**

**Ammonium chloride:** Oral rat LD50: 1650 mg/kg. Investigated as a mutagen.

**Manganese sulfate monohydrate:** Oral rat LD50: 2150 mg/kg; Anhydrous investigated as a possible tumorigen, mutagen, reproductive effector. Manganese metal has shown reproductive and teratogenic effects in laboratory animals.

**N-1-naphthylenediamine dihydrochloride:** Investigated as a tumorigen and mutagen.

**Target Organs:** Lungs Central Nervous System

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**12. Ecological Information**

Information not Available

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**13. Disposal Considerations**

Small quantity: Dissolve in large volume of water and flush down drain with excess water. Large quantity: Dispose as hazardous waste according to federal, state and local regulations.

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**14. Transport Information**

Not regulated for transport

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**15. Regulatory Information****Chemical Inventory Status**

<b>Ingredient</b>	<b>USA</b>	<b>Europe</b>	<b>---Canada---</b>		<b>Australia</b>	<b>Japan</b>
	<b>TSCA</b>	<b>EC</b>	<b>DSL</b>	<b>NDSL</b>		
Ammonium Chloride (12125-02-9)	Yes	Yes	Yes	No	Yes	Yes
Sodium Citrate, anhydrous (68-04-2)	Yes	Yes	Yes	No	Yes	Yes
Manganese (II) Sulfate (1:1) (7785-87-7)	Yes	Yes	Yes	No	Yes	Yes
Sulfanilamide (63-74-1)	Yes	Yes	Yes	No	Yes	Yes
N-1-naphthylethylenediamine dihydrochloride (1465-25-4)	Yes	Yes	Yes	No	Yes	No

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**Product Code: V-6281****Product Description: Color Developing Reagent**

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**Federal, State, & International Regulations**

<b>Ingredient</b>	<b>---SARA 302---</b>		<b>----- SARA 313 -----</b>			<b>RCRA 261.33</b>	<b>TSCA 8(D)</b>
	<b>RQ</b>	<b>TPQ</b>	<b>Listed</b>	<b>Chemical Category</b>	<b>CERCLA</b>		
Ammonium Chloride (12125-02-9)	No	No	No	No	1000	No	No
Sodium Citrate, anhydrous (68-04-2)	No	No	No	No	No	No	No
Manganese II Sulfate (1:1) (7785-87-7)	NO	NO	NO	Manganese Compound	1	NO	NO
Sulfanilamide (63-74-1)	No	No	No	No	No	No	No
N-1-naphthylethylenediamine dihydrochloride (1465-25-4)	No	No	No	No	No	No	No

<b>Ingredient</b>	<b>----- SARA 311/312 -----</b>			<b>----- Australia -----</b>		<b>This MSDS is WHMS Compliant</b>
	<b>Hazard Categories</b>			<b>Hazchem Code</b>	<b>Poison Schedule</b>	
Ammonium Chloride (12125-02-9)	Acute: Yes Pressure: No	Chronic: No Reactivity: No (Pure/Solid)	Fire: No	None allocated	None allocated	
Manganese II Sulfate (1:1) (7785-87-7)	Acute: Yes Pressure: No	Chronic: Yes Reactivity: No (Pure/Solid)	Fire: No	None allocated	None allocated	
Sodium Citrate (6132-04-3)	Acute: No Pressure: No	Chronic: No Reactivity: No (Pure/Solid)	Fire: No	None allocated	None allocated	
Sulfanilamide (63-74-1)	Acute: Yes Pressure: No	Chronic: No Reactivity: No (Pure/Solid)	Fire: No	None allocated	None allocated	
N-1-naphthylenediamine dihydrochloride (1465-25-4)	Acute: Yes Pressure: No	Chronic: No Reactivity: No (Pure/Solid)	Fire: No	None allocated	None allocated	
<b>For #V-6281 product mixture, taken as a whole</b>	Acute: Yes Pressure: No	Chronic: Yes Reactivity: Yes	Fire: No			Yes

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**16. Other Information****Prepared By: IP****Revised: 3/24/2005**



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# MSDS

## Material Safety Data Sheet

### 1. Product Identification

**Product Code:**

**V-6278**

**Product Description:**

Mixed Acid Reagent

**Manufactured By:**

LaMotte Company

802 Washington Avenue

Chestertown, MD 21620

### 2. Composition/Information on Ingredients

Hazardous	Name	CAS #	%	OSHA PEL	ACGIH TLV
Yes	Acetic Acid, glacial	64-19-7	2	10 ppm	10 ppm
Yes	Copper Sulfate, 5-hydrate	7758-99-8	<0.1	1 mg/cubic m as Cu	1 mg/cubic m as Cu
Yes	Ammonium Chloride	12125-02-9	17	10 mg/cubic m	10 mg/cubic m
Yes	Sodium Phosphate, Dibasic	7558-79-4	2	N/E	N/E
Yes	Sodium Chloride	7647-14-5	10	N/E	N/E
Yes	Citric Acid, anhydrous	77-92-9	4	N/E	N/E
No	Water to 100%	7732-18-5			

### 3. Hazards Overview

**Primary Route of Entry:** Ingestion Skin

May be harmful if swallowed. May irritate eyes, skin, respiratory tract.

**HMIS Hazard:** (Scale: 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Least)

Health: 1      Flammability: 0      Reactivity: 0

**Carcinogenicity:** None

**Other Health Related Comments:**

### 4. First Aid Measures

**Eye Contact:** Flush with water for 15 minutes.

**Skin Contact:** Flush thoroughly with water. Wash with soap and water.

**Ingestion:** Rinse mouth, drink glass of water. Consult a physician.

**Inhalation:** Remove to fresh air.

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**Product Code:** V-6278

**Product Description:** Mixed Acid Reagent

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### 5. Fire Fighting Measures

**Flash Point:** N/A    **LEL:** N/A    **UEL:** N/A

#### Fire Rating

**Extinguishing Media:** Not a fire hazard

**Special Fire Fighting Procedures:** Firefighters wear SCBA.

**Hazardous Combustion and/or Decomposition Products:** ammonia, hydrogen chloride

**Unusual Fire & Explosion Hazard:** N/A

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### 6. Accidental Release Measures

Neutralize with sodium bicarbonate. Mop up and flush down drain with excess water.

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### 7. Handling & Storage

Store container tightly closed in cool, dry ventilated area.

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### 8. Exposure Controls/Personal Protection

#### Ventilation

Use with adequate ventilation.

#### Protection When Handling

Gloves    Eye Protection    Lab Coat

**Work/Hygienic Practices:** Wash after handling

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### 9. Physical & Chemical Properties

<b>Appearance:</b>	Blue-green Clear, light Liquid	<b>Boiling Point:</b>	> 100 deg C
		<b>Melting Point:</b>	N/A
		<b>pH:</b>	2
<b>Odor:</b>	Vinegar	<b>Vapor Density:</b>	<1 (Air=1)
<b>Solubility in Water:</b>	Soluble	<b>Vapor Pressure:</b>	< 17 mm@ 20 deg C

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### 10. Stability & Reactivity

**Stable:** Yes

**Conditions to Avoid:** Heat

**Materials to Avoid:** Strong alkali, sulfuric acid

**Hazardous Decomposition Products:** ammonia, hydrogen chloride

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### 11. Toxicological Information

**Oral rat LD50: 300 mg/kg for cupric sulfate, anhydrous.** Investigated as a tumorigen and mutagen.

Oral rat LD50: 1650 mg/kg for ammonium chloride, solid

Acetic acid investigated as a mutagen and reproductive effector.

**Target Organs:** N/A

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**Product Code: V-6278**

**Product Description: Mixed Acid Reagent**

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**12. Ecological Information**

Information not Available

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**13. Disposal Considerations**

Neutralize with sodium bicarbonate to pH 6-7 and flush down drain with excess water. Dispose according to federal, state and local regulations.

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**14. Transport Information**

Not regulated for transport

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**15. Regulatory Information**

**Chemical Inventory Status**

<b>Ingredient</b>	<b>USA</b>	<b>Europe</b>	<b>---Canada---</b>		<b>Australia</b>	<b>Japan</b>
	<b>TSCA</b>	<b>EC</b>	<b>DSL</b>	<b>NDSL</b>		
Acetic Acid (64-19-7)	Yes	Yes	Yes	No	Yes	Yes
Copper Sulfate, anhydrous (7758-98-7)	Yes	Yes	Yes	No	Yes	Yes
Ammonium Chloride	Yes	Yes	Yes	No	Yes	Yes
Sodium Phosphate, Dibasic	Yes	Yes	Yes	No	Yes	Yes
Sodium Chloride (7647-14-5)	Yes	Yes	Yes	No	Yes	Yes
Citric Acid, anhydrous (77-92-9)	Yes	Yes	Yes	No	Yes	Yes
Water to 100%						

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**Product Code: V-6278****Product Description: Mixed Acid Reagent**

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**Federal, State, & International Regulations**

<b>Ingredient</b>	<b>---SARA 302---</b>		<b>----- SARA 313 -----</b>			<b>RCRA 261.33</b>	<b>TSCA 8(D)</b>
	<b>RQ</b>	<b>TPQ</b>	<b>Listed</b>	<b>Chemical Category</b>	<b>CERCLA</b>		
Acetic Acid	No	No	No	No	5000	No	No
Copper Sulfate, anhydrous (7758-98-7)	No	No	No	Copper compounds	10	No	No
Ammonium Chloride (12125-02-9)	No	No	No	No	1000	No	No
Sodium Phosphate, Dibasic	No	No	No	No	5000	No	No
Sodium Chloride	No	No	No	No	No	No	No
Citric Acid, anhydrous	No	No	No	No	No	No	No

Water to 100%

<b>Ingredient</b>	<b>----- SARA 311/312 -----</b>			<b>----- Australia -----</b>		<b>This MSDS is WHMIS Compliant</b>
	<b>Hazard Categories</b>			<b>Hazchem Code</b>	<b>Poison Schedule</b>	
Acetic Acid (64-19-7)	Acute: Yes	Chronic: Yes	Fire: Yes	2P	S6	
	Pressure: No	Reactivity: Yes	(Pure/Liquid)			
Copper Sulfate, anhydrous (7758-98-7)	Acute: Yes	Chronic: Yes	Fire: No	None	S5	
	Pressure: No	Reactivity: No	(Pure/Solid)	allocated		
Ammonium Chloride (12125-02-9)	Acute: Yes	Chronic: No	Fire: No	None	None allocated	
	Pressure: No	Reactivity: No	(Pure/Solid)	allocated		
Sodium Phosphate, Dibasic	Acute: Yes	Chronic: No	Fire: No	None	None allocated	
	Pressure: No	Reactivity: No	(Pure/Solid)	allocated		
Sodium Chloride	Acute: Yes	Chronic: No	Fire: No	None	None allocated	
	Pressure: No	Reactivity: No	(Pure/Solid)	allocated		
Citric Acid, anhydrous	Acute: Yes	Chronic: No	Fire: No	None	None allocated	
	Pressure: No	Reactivity: No	(Pure/Solid)	allocated		
<b>For product #V-6278 liquid mixture, as a whole</b>	Acute: Yes	Chronic: No	Fire: No			
	Pressure: No	Reactivity: No				

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**16. Other Information****Prepared By: IP****Revised: 3/14/2005**