



# MSDS

P.O. Box 329 - 802 Washington Avenue Chestertown, MD 21620 - USA

## MATERIAL SAFETY DATA SHEET

TELEPHONE # FOR INFORMATION 410 778-3100

24 HOUR EMERGENCY NUMBER (CHEM-TEL): USA, Canada, Puerto Rico 800-255-3924;

Outside North American Continent 813-248-0585 (call Collect)

### 1. Product Identification

**Product Code:** 4032

**Product Description:** Ammonium Chloride Buffer

**Manufactured By:** LaMotte Company

802 Washington Avenue

Chestertown, MD 21620

### 2. Composition/Information On Ingredients

Hazard	CAS#/Name	%	PEL	TLV
Yes	1336-21-6 Ammonium Hydroxide (16% w/w aqueous ammonia)	<8 NH3	50 ppm as NH3	25 ppm as NH3
Yes	12125-02-9 Ammonium Chloride	0.5	10 mg/cubic m	10 mg/cubic m NH4Cl fume
Yes	5470-11-1 Hydroxylamine Hydrochloride	1.2	N/E	N/E
No	7732-18-5 Water	to 100%		

### 3. Hazards Overview

**Primary Route Of Entry:** Ingestion Inhalation Skin

Vapors harmful to mucous membranes. Causes severe burns and may be fatal if swallowed.

#### HMIS Hazard

Scale: 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Least

Health: 2      Flammability: 0      Reactivity: 1

**Carcinogenicity:** None

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

Hydroxylamine HCl is toxic, corrosive, & a possible sensitizer, mutagen, or teratogen.

---

**Product Code:** 4032

**Product Description:** Ammonium Chloride Buffer

---

#### **4. First Aid Measures**

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

**Skin Contact:** Flush with water for 15 minutes while removing affected clothing. Rinse skin thoroughly.

**Ingestion:** Do not induce vomiting. Rinse mouth. Drink plenty of water. Call a doctor.

**Inhalation:** Remove to fresh air.

---

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

**Flash Point (Method Used):** N/A

**LEL:** 15%

**UEL:** 28% (NH<sub>3</sub>)

**Extinguishing Media:** Water spray

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

**Unusual Fire & Explosion Hazard:** May give off flammable vapors under fire conditions. Closed containers exposed to heat may burst.

---

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

Do not breathe vapor. Wear NIOSH approved respirator with ammonia vapor cartridge if airborne concentration exceeds TLV.

---

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

Store in cool, dry, storage area away from such incompatible materials as acids, metals, bleach.

---

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

### **Ventilation**

Mechanical

### **Protection When Handling**

Gloves Eye Protection Lab Coat

**Work/Hygenic Practices:** Use with adequate ventilation and avoid contact with eyes or skin.

---

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

**Appearance:** Clear Colorless Liquid

**Solubility In Water:** Soluble

**Odor:** Pungent, ammonia

**pH:** 10

**Vapor Density:** Unknown

**Vapor Pressure:** ammonia: 8.5 atm

**Boiling Point:** Unknown

**Melting Point:** N/A

---

## **10. Stability & Reactivity**

**Stable:** Yes

**Conditions To Avoid:** Heat, light

**Incompatibility (Materials To Avoid):** Metals, chlorine, bleaches, acids

**Hazardous Decomposition Products:** Ammonia, NOx

---

## **11. Toxicological Information**

orl rat LD50:350 mg/kg, Ammonium Hydroxide; orl mus LD50:408 mg/kg, Hydroxylamine HCl

**Target Organs:** Skin Eyes Lungs

**Pre-Existing Conditions Aggravated By Exposure:** Respiratory conditions

---

**12. Ecological Information**

Information Not Yet Available

**13. Disposal Considerations**

Carefully neutralize with dilute hydrochloric acid. Flush down drain with excess water. Dispose according to federal, state and local regulations.

**14. Transportation Information**

Not Regulated For Transport

**15. Regulatory Information**

**Chemical Inventory Status**

Hazard	Ingredient	USA	Europe	--- Canada ---		Australia	Japan
		TSCA	EC	DSL	NDSL		
Yes	1336-21-6 Ammonium Hydroxide	Yes	Yes	Yes	No	Yes	Yes
Yes	12125-02-9 Ammonium Chloride	Yes	Yes	Yes	No	Yes	Yes
Yes	5470-11-1 Hydroxylamine Hydrochloride	Yes	Yes	Yes	No	Yes	Yes
No	7732-18-5 Distilled Water	Yes	Yes	Yes	No	Yes	Yes

**Federal, State, & International Regulations**

Ingredient	--- SARA 302 ---		----- SARA 313 -----		CERCLA	RCRA 261.33	TSCA 8(D)
	RQ	TPQ	Listed	Chemical Category			
1336-21-6 Ammonium Hydroxide	No	No	No	No	1000	No	No
12125-02-9 Ammonium Chloride	No	No	No	No	5000	No	No
5470-11-1 Hydroxylamine Hydrochloride	No	No	No	No	No	No	No
7732-18-5 Distilled Water	No	No	No	No	No	No	No

---

**Product Code:** 4032

**Product Description:** Ammonium Chloride Buffer

---

--- SARA 311/312 ---

----- Australia -----

**Hazard Categories**

**Hazchem  
Code**

**Poison  
Schedule**

**This MSDS Is  
WHMIS Compliant**

**Ingredient**

**Acute**

**Chronic**

**Fire**

**Pressure**

**Reactivity**

1336-21-6

Yes

Yes

No

No

No

2P

S6

Ammonium Hydroxide

12125-02-9

Yes

No

No

No

No

None Allocated

None Allocated

Ammonium Chloride

5470-11-1

Yes

Yes

No

No

Yes

2X

None Allocated

Hydroxylamine Hydrochloride

7732-18-5

No

No

No

No

No

None Allocated

None Allocated

Distilled Water

**product 4032  
as a whole**

Yes

No

No

No

No

None Allocated

None Allocated

Yes

---

**16. Other Information**

Store tightly closed, away from heat, light, and acids.

**Prepared By:** IP, Regulatory Affairs Department

**Revised:** 7/5/2004

---



# MSDS

P.O. Box 329 - 802 Washington Avenue Chestertown, MD 21620 - USA

## MATERIAL SAFETY DATA SHEET

TELEPHONE # FOR INFORMATION 410 778-3100

24 HOUR EMERGENCY NUMBER (CHEM-TEL): USA, Canada, Puerto Rico 800-255-3924;

Outside North American Continent 813-248-0585 (call Collect)

### 1. Product Identification

**Product Code:** 6565

**Product Description:** Sodium Cyanide, 10%

**Manufactured By:** LaMotte Company

802 Washington Avenue

Chestertown, MD 21620

### 2. Composition/Information On Ingredients

Hazard	CAS#/Name	%	PEL	TLV
Yes	143-33-9 Sodium Cyanide	10	5 mg/cubic m, skin as CN	5 mg/cubic m, skin as CN
Yes	1310-73-2 Sodium Hydroxide	0.2	C 2 mg/cubic m	C 2 mg/cubic m
No	7732-18-5 Water	to 100%		

### 3. Hazards Overview

**Primary Route Of Entry:** Ingestion Inhalation

Poison! Danger! Can cause severe irritation to eyes, skin, lungs. Harmful or fatal if swallowed. Poisoning can also occur by absorption through the skin.

#### HMIS Hazard

Scale: 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Least

Health: 3      Flammability: 0      Reactivity: 1

**Carcinogenicity:** None:

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

Danger! May be rapidly fatal if swallowed. See Section 11.

---

**Product Code:** 6565

**Product Description:** Sodium Cyanide, 10%

---

#### **4. First Aid Measures**

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

**Skin Contact:** IMMEDIATELY flush with water for 15 minutes. Remove affected clothing and wash skin with soap and water.. Consult physician.

**Ingestion:** IMMEDIATELY induce vomiting and call a doctor. Prompt treatment is essential.

**Inhalation:** Remove to fresh air. If breathing is difficult give oxygen. Seek prompt medical attention.

---

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

**Flash Point (Method Used):** N/A

**LEL:** N/A

**UEL:** N/A

**Extinguishing Media:** Not a fire hazard

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

**Unusual Fire & Explosion Hazard:** Contact with acid liberates poisonous hydrogen cyanide gas

---

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

Absorb on inert material (vermiculite) or spill pads. Place in clean, dry plastic pail with lid and dispose of as hazardous waste. Do not flush to sewer. OR: Scoop up into beaker. Follow procedure in Section 13 for decomposing the cyanide.

---

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

Store tightly closed in cool, dry ventilated "poison" area--away from incompatible materials like strong acids or oxidizers. Water or weak alkaline solutions (pH<10) of cyanides can evolve dangerous amounts of hydrogen cyanide in confined areas.

---

---

**Product Code:** 6565

**Product Description:** Sodium Cyanide, 10%

---

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

### **Ventilation**

Mechanical

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

### **Protection When Handling**

Eye Protection Gloves Lab Coat

**Work/Hygenic Practices:** Keep #6565 from skin & clothing. Do not eat or smoke when using. Wash thoroughly after handling.

---

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

**Appearance:** Clear Colorless Liquid

**Solubility In Water:** Soluble

**Odor:** slight (almond) odor

**pH:** 12

**Vapor Density:** Unknown

**Vapor Pressure:** Unknown

**Boiling Point:** >100 deg C

**Melting Point:** N/A

---

## **10. Stability & Reactivity**

**Stable:** Yes

**Conditions To Avoid:** Heat

**Incompatibility (Materials To Avoid):** Strong acids, strong oxidizers

**Hazardous Decomposition Products:** Hydrogen Cyanide Gas (highly toxic!)

---

## **11. Toxicological Information**

Oral human LDLo: 2.9 mg/kg for solid sodium cyanide (highly toxic). Sodium cyanide investigated as a tumorigen.

**Target Organs:** Blood Lung Respiratory System

---



---

**Product Code:** 6565

**Product Description:** Sodium Cyanide, 10%

---

**12. Ecological Information**

This material is expected to be very toxic to aquatic life and very toxic to terrestrial life, as well.

---

**13. Disposal Considerations**

In fume hood, cool beaker of waste cyanide in ice water. Decompose by adding a strong alkaline soln. of calcium hypochlorite (or commercial bleach) 'til bubbling ceases & there is a detectable excess of chlorine. Let stand for 24 hours. Flush to drain.

---

**14. Transportation Information**

**Proper Shipping Name:**

**DOT:** CYANIDE SOLUTIONS, N.O.S. (10% SODIUM CYANIDE)

**IATA:** CYANIDE SOLUTION, N.O.S.  
(10% SODIUM CYANIDE)

**Hazard Class/Div:**

**DOT:** 6.1

**IATA:** 6.1

**UN:** 1935

**Packing Group:** I

---

**15. Regulatory Information**

**Chemical Inventory Status**

Hazard	Ingredient	USA	Europe	--- Canada ---		Australia	Japan
		TSCA	EC	DSL	NDSL		
Yes	143-33-9 Sodium Cyanide	Yes	Yes	Yes	No	Yes	Yes
Yes	1310-73-2 Sodium Hydroxide	Yes	Yes	Yes	No	Yes	Yes
No	7732-18-5 Distilled Water	Yes	Yes	Yes	No	Yes	Yes

---

**Product Code:** 6565

**Product Description:** Sodium Cyanide, 10%

---

**Federal, State, & International Regulations**

<b>Ingredient</b>	<b>--- SARA 302 ---</b>		<b>----- SARA 313 -----</b>		<b>CERCLA</b>	<b>RCRA 261.33</b>	<b>TSCA 8(D)</b>
	<b>RQ</b>	<b>TPQ</b>	<b>Listed</b>	<b>Chemical Category</b>			
143-33-9 Sodium Cyanide	10	100	No	Cyanide comp.	10	P106	No
1310-73-2 Sodium Hydroxide	No	No	No	No	1000	No	No
7732-18-5 Distilled Water	No	No	No	No	No	No	No

---

**Product Code:** 6565

**Product Description:** Sodium Cyanide, 10%

---

--- SARA 311/312 ---

----- Australia -----

**Hazard Categories**

<b>Ingredient</b>	<b>Acute</b>	<b>Chronic</b>	<b>Fire</b>	<b>Pressure</b>	<b>Reactivity</b>	<b>Hazchem Code</b>	<b>Poison Schedule</b>	<b>This MSDS Is WHMIS Compliant</b>
143-33-9 Sodium Cyanide	Yes	Yes	No	No	No	4X	S7	
1310-73-2 Sodium Hydroxide	Yes	No	No	No	Yes	2R	S6	
7732-18-5 Distilled Water	No	No	No	No	No	None Allocated	None Allocated	
<b>product 6565 as a whole</b>	Yes	Yes	No	No	No	4X	S7	Yes

---

**16. Other Information**

Keep cyanide solution out of reach of children.

**Prepared By:** IP, Regulatory Affairs Department

**Revised:** 6/1/2006

---



# MSDS

P.O. Box 329 - 802 Washington Avenue Chestertown, MD 21620 - USA

## MATERIAL SAFETY DATA SHEET

TELEPHONE # FOR INFORMATION 410 778-3100

24 HOUR EMERGENCY NUMBER (CHEM-TEL): USA, Canada, Puerto Rico 800-255-3924;

Outside North American Continent 813-248-0585 (call Collect)

### 1. Product Identification

**Product Code:** 4033

**Product Description:** PAR Indicator

**Manufactured By:** LaMotte Company

802 Washington Avenue

Chestertown, MD 21620

### 2. Composition/Information On Ingredients

Hazard	CAS#/Name	%	PEL	TLV
Yes	16593-81-0 4-(2-Pyridylazo) Resorcinol, monosodium salt hydrate	44	N/E	N/E
No	7732-18-5 Water	to 100%		

### 3. Hazards Overview

**Primary Route Of Entry:** Ingestion Inhalation Skin

Irritating to eyes, skin, mucous membranes.

#### 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:**

---

**Product Code:** 4033

**Product Description:** PAR Indicator

---

#### **4. First Aid Measures**

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

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

**Ingestion:** Drink water. Consult physician.

**Inhalation:** Remove to fresh air.

---

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

**Flash Point (Method Used):** N/A

**LEL:** N/A

**UEL:** N/A

**Extinguishing Media:** Not a fire hazard

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

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

---

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

Mop up and flush down drain.

---

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

Store in cool, dry, storage area away from incompatible materials.

---

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

### **Ventilation**

Normal

### **Protection When Handling**

Gloves Eye Protection Lab Coat

**Work/Hygenic Practices:** Wash after handling.

---

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

**Appearance:** Yellow-orange Liquid

**Solubility In Water:** Soluble

**Odor:** None

**pH:** 6

**Vapor Density:** Unknown

**Vapor Pressure:** Unknown

**Boiling Point:** >100 deg C

**Melting Point:** N/A

---

## **10. Stability & Reactivity**

**Stable:** Yes

**Conditions To Avoid:** Temperature extremes

**Incompatibility (Materials To Avoid):** Oxidizing agents, strong acids or bases

**Hazardous Decomposition Products:** CO<sub>x</sub>, NO<sub>x</sub>

---

## **11. Toxicological Information**

PAR (as a solid or dust) is irritating to eyes, skin, respiratory system.

**Target Organs:** N/A

---

**Product Code:** 4033

**Product Description:** PAR Indicator

---

## **12. Ecological Information**

Information Not Yet Available

---

## **13. Disposal Considerations**

Flush down drain. Dispose according to federal, state and local regulations.

---

## **14. Transportation Information**

Not Regulated For Transport

---

## **15. Regulatory Information**

### **Chemical Inventory Status**

Hazard	Ingredient	USA	Europe	--- Canada ---		Australia	Japan
		TSCA	EC	DSL	NDSL		
Yes	16593-81-0 4-(2-Pyridylazo) Resorcinol, monosodium salt hydrate	Yes	Yes	Yes	No	?	?
No	7732-18-5 Distilled Water	Yes	Yes	Yes	No	Yes	Yes

### **Federal, State, & International Regulations**

Ingredient	--- SARA 302 ---		----- SARA 313 -----		CERCLA	RCRA 261.33	TSCA 8(D)
	RQ	TPQ	Listed	Chemical Category			
16593-81-0 4-(2-Pyridylazo) Resorcinol, monosodium salt hydrate	No	No	No	No	No	No	No
7732-18-5 Distilled Water	No	No	No	No	No	No	No

---

**Product Code:** 4033

**Product Description:** PAR Indicator

---

--- SARA 311/312 ---

**Hazard Categories**

----- Australia -----

**Hazchem  
Code**

**Poison  
Schedule**

**This MSDS Is  
WHMIS Compliant**

<b>Ingredient</b>	<b>Acute</b>	<b>Chronic</b>	<b>Fire</b>	<b>Pressure</b>	<b>Reactivity</b>			
16593-81-0 4-(2-Pyridylazo) Resorcinol, monosodium salt hydrate	Yes	No	No	No	No	no info	no info	
7732-18-5 Distilled Water	No	No	No	No	No	None Allocated	None Allocated	
<b>product 4033 as a whole</b>	Yes	No	No	No	No	None Allocated	None Allocated	Yes

---

**16. Other Information**

**Prepared By:** IP, Regulatory Affairs Department

**Revised:** 6/7/2006

---





# MSDS

P.O. Box 329 - 802 Washington Avenue Chestertown, MD 21620 - USA

## MATERIAL SAFETY DATA SHEET

TELEPHONE # FOR INFORMATION 410 778-3100

24 HOUR EMERGENCY NUMBER (CHEM-TEL): USA, Canada, Puerto Rico 800-255-3924;

Outside North American Continent 813-248-0585 (call Collect)

### 1. Product Identification

**Product Code:** 4034

**Product Description:** DDC Reagent

**Manufactured By:** LaMotte Company

802 Washington Avenue

Chestertown, MD 21620

### 2. Composition/Information On Ingredients

Hazard	CAS#/Name	%	PEL	TLV
Yes	1336-21-6 Ammonium Hydroxide	3	50 ppm as NH <sub>3</sub>	25 ppm as NH <sub>3</sub>
Yes	108-88-3 Toluene	<0.1	100 ppm (airborne)	50 ppm (skin)
Yes	20624-25-3 Sodium Diethyldithiocarbamate, trihydrate	1	N/E	N/E
	Water to 100%			

### 3. Hazards Overview

**Primary Route Of Entry:** Skin Ingestion Inhalation

Vapors and liquid cause irritation to eyes, skin and respiratory system. Harmful if swallowed.

#### 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:**

Warning: This product contains toluene, a chemical known to the state of California to cause birth defects and other reproductive harm. ( 1-2 drops of toluene per liter of reagent are used as a preservative).

---

**Product Code:** 4034

**Product Description:** DDC Reagent

---

#### **4. First Aid Measures**

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

**Skin Contact:** Immediately flush with water for 15 minutes. Wash with soap and water.

**Ingestion:** Do not induce vomiting. Rinse mouth, drink glass of water or milk. Call a physician.

**Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen.

---

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

**Flash Point (Method Used):** N/A

**LEL:** N/A

**UEL:** N/A

**Extinguishing Media:** Not a fire hazard

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

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

---

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

Carefully neutralize with dilute hydrochloric acid or vinegar. Mop up and flush down drain with excess water.

---

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

Store in cool, ventilated storage area away from such incompatible materials as strong acids.

---

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

### **Ventilation**

Mechanical

Use with adequate ventilation

### **Protection When Handling**

Eye Protection Gloves Lab Coat

**Work/Hygenic Practices:** Use only with adequate ventilation. Avoid contact with skin and clothing. Wash after handling.

---

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

**Appearance:** Clear Colorless Liquid

**Solubility In Water:** Soluble

**Odor:** Pungent, ammonia

**pH:** 12

**Vapor Density:** <1 (Air = 1)

**Vapor Pressure:** ca. 50 mm Hg @ 20 deg C

**Boiling Point:** below 100 deg C (ammonia)

**Melting Point:** N/A

---

## **10. Stability & Reactivity**

**Stable:** Yes

**Conditions To Avoid:** Heat

**Incompatibility (Materials To Avoid):** Strong acids, metals, chlorine and bleaches

**Hazardous Decomposition Products:** ammonia, NO<sub>x</sub>; reaction with strong acid can release carbon disulfide.

---

## **11. Toxicological Information**

Oral rat LD50: 350 mg/kg, ammonium hydroxide; 1500 mg/kg, sodium diethyldithiocarbamate. Ammonium hydroxide investigated as a mutagen. Sodium diethyldithiocarbamate investigated as a tumorigen and mutagen.

**Target Organs:** Lung Skin

**Pre-Existing Conditions Aggravated By Exposure:** Respiratory conditions; asthma

---

**Product Code:** 4034

**Product Description:** DDC Reagent

## **12. Ecological Information**

This material is not expected to significantly bioaccumulate.

## **13. Disposal Considerations**

Neutralize with dilute hydrochloric acid or vinegar, then flush down drain with excess water. Dispose according to federal, state and local regulations.

## **14. Transportation Information**

Not Regulated For Transport

## **15. Regulatory Information**

### **Chemical Inventory Status**

Hazard	Ingredient	USA	Europe	--- Canada ---		Australia	Japan
		TSCA	EC	DSL	NDSL		
Yes	1336-21-6 Ammonium Hydroxide	Yes	Yes	Yes	No	Yes	Yes
Yes	108-88-3 Toluene	Yes	Yes	Yes	No	Yes	Yes
Yes	148-18-5 Sodium Diethyldithiocarbamate anhydrous	Yes	Yes	Yes	No	Yes	Yes

### **Federal, State, & International Regulations**

Ingredient	--- SARA 302 ---		----- SARA 313 -----		CERCLA	RCRA 261.33	TSCA 8(D)
	RQ	TPQ	Listed	Chemical Category			
1336-21-6 Ammonium Hydroxide	No	No	No	No	1000	No	No
108-88-3 Toluene	No	No	Yes	No	1000	U220	No
148-18-5 Sodium Diethyldithiocarbamate anhydrous	No	No	No	No	1	No	No

---

**Product Code:** 4034

**Product Description:** DDC Reagent

---

--- SARA 311/312 ---

----- Australia -----

**Hazard Categories**

**Hazchem  
Code**

**Poison  
Schedule**

**This MSDS Is  
WHMIS Compliant**

<b>Ingredient</b>	<b>Acute</b>	<b>Chronic</b>	<b>Fire</b>	<b>Pressure</b>	<b>Reactivity</b>			
1336-21-6 Ammonium Hydroxide	Yes	Yes	No	No	No	2P	S6	
108-88-3 Toluene	Yes	Yes	Yes	No	No	3[Y]E	S6	
148-18-5 Sodium Diethyldithiocarbamate anhydrous	Yes	No	No	No	No	None Allocated	None Allocated	
<b>product 4034 as a whole</b>	Yes	No	No	No	No	None Allocated	None Allocated	Yes

---

**16. Other Information**

**Prepared By:** IP, Regulatory Affairs Department

**Revised:** 6/7/2006

---



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:** 6446  
**Product Description:** Copper 1

### **Manufactured By:**

LaMotte Company  
 802 Washington Avenue  
 Chestertown, MD 21620

### 2. Composition/Information on Ingredients

Hazardous	Name	CAS #	%	OSHA PEL	ACGIH TLV
Yes	Ammonium Hydroxide	1336-21-6	3	35 ppm as NH3	25 ppm as NH3
Yes	Toluene	108-88-3	<0.1	100 ppm	100 ppm
Yes	Sodium Diethyldithiocarbamate, trihydrate	20624-25-3	1	N/E	N/E
No	Water to 100%	7732-18-5	>95		

### 3. Hazards Overview

**Primary Route of Entry:** Ingestion Inhalation Skin

Caution! Vapors and liquid cause irritation to eyes, skin and respiratory system. May be harmful if swallowed.

**Carcinogenicity:** None

#### Other Health Related Comments:

This product contains toluene, a chemical known to the state of California to cause birth defects and other reproductive harm.

Aggravation of Pre-existing Conditions: Persons with pre-existing respiratory conditions may be more susceptible to the effects of this product

### 4. First Aid Measures

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

**Skin Contact:** Immediately flush with water. Wash skin with soap and water.

**Ingestion:** Do not induce vomiting. Rinse mouth, drink glass of water or milk. Call a physician.

**Inhalation:** Remove to fresh air. If breathing is difficult, give oxygen.

---

**Product Code: 6446**

**Product Description: Copper 1**

---

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

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

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

Health: 1    Flammability: 0    Reactivity: 0

### **Fire Rating**

**Extinguishing Media:** Not a fire hazard

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

**Hazardous Combustion and/or Decomposition Products:** ammonia, NOx; reaction w/ acid can release carbon disulfide.

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

---

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

Carefully neutralize with dilute hydrochloric acid. Flush down drain with excess water.

---

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

Store in cool, ventilated area away from acids or other incompatible materials.

### **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 only with adequate ventilation. Avoid contact with skin and clothing.

---

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

<b>Appearance:</b>	Colorless Clear Liquid	<b>Boiling Point:</b>	ca. 100 degC
		<b>Melting Point:</b>	N/A
		<b>pH:</b>	12
<b>Odor:</b>	Pungent, ammonia	<b>Vapor Density:</b>	Unknown
<b>Solubility in Water:</b>	Soluble	<b>Vapor Pressure:</b>	>20 @ 20 deg C

---

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

**Stable:** Yes  
**Conditions to Avoid:** Heat  
**Materials to Avoid:** Alkali metals

**Hazardous Decomposition Products:** ammonia, NOx; reaction with acid can release carbon disulfide.

---

**Product Code: 6446****Product Description: Copper 1**

---

---

**11. Toxicological Information****oral rat LD50: 350 mg/kg, ammonium hydroxide; 1500 mg/kg, sodium diethyldithiocarbamate**

Sodium Diethyldithiocarbamate investigated as a tumorigen and mutagen

**Target Organs:** Lungs Respiratory System

---

**12. Ecological Information**Information not Available

---

**13. Disposal Considerations**Neutralize with dilute hydrochloric acid, then flush down drain with excess water. Dispose according to federal, state and local regulations.

---

**14. Transport Information**Not regulated for transport

---

**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 Hydroxide	Yes	Yes	Yes	No	Yes	Yes
Toluene	Yes	Yes	Yes	No	Yes	Yes
Sodium Diethyldithiocarbamate, trihydrate	Yes	Yes	Yes	No	Yes	Yes
Water to 100%						

**Federal, State, & International Regulations**

<b>Ingredient</b>	<b>---SARA 302---</b>		<b>----- SARA 313 -----</b>		<b>CERCLA</b>	<b>RCRA 261.33</b>	<b>TSCA 8(D)</b>
	<b>RQ</b>	<b>TPQ</b>	<b>Listed</b>	<b>Chemical Category</b>			
Ammonium Hydroxide	No	No	No	No	1000	No	No
Toluene	No	No	Yes	No	1000	U220	No
Sodium Diethyldithiocarbamate, trihydrate	No	No	No	No	1	No	No
Water							



---

**Product Code: 6446**

**Product Description: Copper 1**

---

**Federal, State, & International Regulations**

<b>Ingredient</b>	<b>----- SARA 311/312 ----- Hazard Categories</b>	<b>----- Australia -----</b>		<b>This MSDS is WHMIS Compliant</b>
		<b>Hazchem Code</b>	<b>Poison Schedule</b>	
Ammonium Hydroxide	Acute: Yes Chronic: Yes Fire: No Pressure: No Reactivity: No (Pure/Solid)	2P	S6	
Toluene	Acute: Yes Chronic: Yes Fire: Yes Pressure: No Reactivity: No (Pure/Liquid)	3[Y]E	S6	
Sodium Diethyldithiocarbamate, trihydrate Water	Acute: Yes Chronic: No Fire: No Pressure: No Reactivity: No (Pure/Solid)	None allocated	None allocated	
<b>For product #6446 liquid mixture taken as a whole</b>	Acute: Yes Chronic: No Fire: No Pressure: No Reactivity: No			Yes

---

**16. Other Information**

**Prepared By: IP**

**Revised: 3/07/2005**



# MSDS

P.O. Box 329 - 802 Washington Avenue Chestertown, MD 21620 - USA

## MATERIAL SAFETY DATA SHEET

TELEPHONE # FOR INFORMATION 410 778-3100

24 HOUR EMERGENCY NUMBER (CHEM-TEL): USA, Canada, Puerto Rico 800-255-3924;

Outside North American Continent 813-248-0585 (call Collect)

### 1. Product Identification

**Product Code:** 4022

**Product Description:** Stabilizing Reagent

**Manufactured By:** LaMotte Company

802 Washington Avenue

Chestertown, MD 21620

### 2. Composition/Information On Ingredients

Hazard	CAS#/Name	%	PEL	TLV
Yes	9036-19-5 Triton X-100 surfactant	0.5	N/E	N/E
No	7732-18-5 Water	to 100%		

### 3. Hazards Overview

**Primary Route Of Entry:**

N/A

#### HMIS Hazard

Scale: 4 = Extreme, 3 = High, 2 = Moderate, 1 = Slight, 0 = Least

Health: 0      Flammability: 0      Reactivity: 0

**Carcinogenicity:** None:

**Other Health Related Comments:**

Non-hazardous, non-toxic

---

**Product Code:** 4022

**Product Description:** Stabilizing Reagent

---

#### **4. First Aid Measures**

**Eye Contact:** Flush with water.

**Skin Contact:** Flush with water.

**Ingestion:** Drink water.

**Inhalation:** N/A

---

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

**Flash Point (Method Used):** N/A

**LEL:** N/A

**UEL:** N/A

**Extinguishing Media:** Not a fire hazard

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

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

---

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

Mop up and flush down drain.

---

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

Store in cool, dry, storage area away from incompatible materials.

---

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

### **Ventilation**

Normal

### **Protection When Handling**

N/A

Work/Hygenic Practices: N/A

---

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

**Appearance:** Colorless Liquid

**Solubility In Water:** Soluble

**Odor:** None

**pH:** 6

**Vapor Density:** <1 (Air=1)

**Vapor Pressure:** <17 @ 20 deg C

**Boiling Point:** ca. 100 degC

**Melting Point:** ca. 0 degC

---

## **10. Stability & Reactivity**

**Stable:** Yes

**Conditions To Avoid:** N/A

**Incompatibility (Materials To Avoid):** N/A

**Hazardous Decomposition Products:** N/A

---

## **11. Toxicological Information**

Non-toxic

**Target Organs:** N/A

---

**Product Code:** 4022

**Product Description:** Stabilizing Reagent

---

## **12. Ecological Information**

Information Not Yet Available

---

## **13. Disposal Considerations**

Flush down drain. Dispose according to federal, state and local regulations.

---

## **14. Transportation Information**

Not Regulated For Transport

---

## **15. Regulatory Information**

### **Chemical Inventory Status**

Hazard	Ingredient	USA	Europe	--- Canada ---		Australia	Japan
		TSCA	EC	DSL	NDSL		
Yes	9036-19-5 Triton X-100 Surfactant (octylphenoxypolyethoxy ethanol)	Yes	Yes	Yes	No	Yes	Yes
No	7732-18-5 Distilled Water	Yes	Yes	Yes	No	Yes	Yes

### **Federal, State, & International Regulations**

Ingredient	--- SARA 302 ---		----- SARA 313 -----		CERCLA	RCRA 261.33	TSCA 8(D)
	RQ	TPQ	Listed	Chemical Category			
9036-19-5 Triton X-100 Surfactant (octylphenoxypolyethoxy ethanol)	No	No	No	No	No	No	Yes
7732-18-5 Distilled Water	No	No	No	No	No	No	No

---

**Product Code:** 4022

**Product Description:** Stabilizing Reagent

---

--- SARA 311/312 ---

**Hazard Categories**

----- Australia -----

**Hazchem  
Code**

**Poison  
Schedule**

**This MSDS Is  
WHMIS Compliant**

**Ingredient**    **Acute**    **Chronic**    **Fire**    **Pressure**    **Reactivity**

9036-19-5    Yes    Yes    No    No    No  
Triton X-100 Surfactant (octylphenoxy polyethoxy ethanol)

None Allocated    None Allocated

7732-18-5    No    No    No    No    No  
Distilled Water

None Allocated    None Allocated

**product**    No    No    No    No    No  
**4022**  
**as a whole**

None Allocated    None Allocated    Yes

---

**16. Other Information**

**Prepared By:** IP, Regulatory Affairs Department

**Revised:** 4/13/2006

---