



Issuing Date 5/31/2012

Revision Number 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name COLOR DEVELOPING REAGENT

Product Code(s) V-6281

Recommended Use Test kit reagent. Laboratory chemicals. Industrial (not for food or food contact use).

Company LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620
USA

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**WARNING!****Emergency Overview**

Harmful if swallowed

Harmful by inhalation

Product dust may be irritating to eyes, skin and respiratory system

Appearance White**Physical State** Powder**Odor** Odorless**Potential Health Effects****Principle Routes of Exposure**

Eye contact, Inhalation, skin contact, and ingestion.

Acute Toxicity**Eyes**

Irritating to eyes. Causes irritation, redness, and pain.

Skin

May cause irritation. Symptoms can include redness, itching, and pain. May be absorbed through the skin in harmful amounts.

Inhalation

Harmful by inhalation. May cause irritation of respiratory tract.

Ingestion

Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects

Chronic manganese poisoning primarily involves the central nervous system. Chronic manganese poisoning can result from excessive inhalation and ingestion. Early symptoms include sluggishness, sleepiness, and weakness in the legs. Kidney effects. Chronic inhalation exposure can cause lung damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
N-(1-Naphthyl)ethylenediamine dihydrochloride	1465-25-4	1
Sulfanilamide	63-74-1	2
Manganese sulfate monohydrate	10034-96-5	10
Sodium citrate, dihydrate	6132-04-3	30-40
Ammonium chloride	12125-02-9	45-55

4. FIRST AID MEASURES

General Advice	Show this safety data sheet to the doctor in attendance. Consult a physician.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Remove and wash contaminated clothing before re-use. Consult a physician.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.
Ingestion	Induce vomiting, but only if victim is fully conscious. Immediate medical attention is required. Drink plenty of water. Never give anything by mouth to an unconscious person.
Notes to Physician	See MSDS (material safety data sheet) for additional information.
Protection of First-aiders	Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce 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

Flammable Properties		Not flammable.		
Flash Point		Not applicable		
Suitable Extinguishing Media		Dry chemical, CO ₂ , water spray or alcohol-resistant foam.		
Explosion Data				
Specific Hazards Arising from the Chemical		Thermal decomposition can lead to release of toxic and corrosive gases/vapors.		
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.		
<u>NFPA</u>	Health Hazard 2	Flammability 0	Stability 0	Physical and Chemical Hazards N/A
HMIS	Health Hazard 2	Flammability 0	Stability 0	

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Ensure adequate ventilation. Wear respiratory protection. Remove all sources of ignition. Keep people away from and upwind of spill/leak.
Methods for Containment	Sweep up in a manner that does not disperse dust and shovel into suitable containers for disposal. Do not flush to sewer.
Methods for Cleaning Up	Clean contaminated surface thoroughly. After cleaning, flush away traces with water.
Other Information	Ventilate the area.

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes, and clothing. Do not ingest. Do not breathe vapors/dust.
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Storage

Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep away from oxidizing agents. Keep away from heat and sources of ignition. Keep away from heat, moisture, and incompatibles. Protect from moisture. Do not allow contact with air. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4	None Known	None Known	None Known
Sulfanilamide 63-74-1	None Known	None Known	None Known
Manganese sulfate monohydrate 10034-96-5	TWA: 0.2 mg/m ³	None Known	IDLH: 500 mg/m ³ TWA: 1 mg/m ³ STEL: 3 mg/m ³
Sodium citrate, dihydrate 6132-04-3	None Known	None Known	None Known
Ammonium chloride 12125-02-9	= 20 mg/m ³ STEL TWA: 10 mg/m ³	None Known	TWA: 10 mg/m ³ STEL: 20 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures

Showers
Eyewash stations
Ventilation systems.

Personal Protective Equipment**Eye/Face Protection**

Safety glasses with side-shields.

Skin and Body Protection

Wear protective gloves/clothing. Wear latex or nitrile gloves.

Respiratory Protection

Use mechanical ventilation (fume hood). When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures

Use only with adequate ventilation. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes and clothing. Wash hands and face before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White	Odor	Odorless
Physical State	Powder	pH	7 (0.1g/10mL water)
Flash Point	Not applicable	Autoignition Temperature	No data available
Boiling Point/Range	No data available	Freezing Point	No information available
Solubility	Partly soluble	Evaporation Rate	Not applicable
Vapor Pressure	No data available		

10. STABILITY AND REACTIVITY

Stability

Stable under normal conditions of use and storage.

Incompatible Products

Strong acids. Strong oxidizing agents. Strong bases. Finely powdered metals.

Conditions to Avoid

Exposure to air or moisture over prolonged periods. Excessive heat. Incompatible products.

Hazardous Decomposition Products Ammonia. Hazardous decomposition products formed under fire conditions - carbon oxides (COx), nitrogen oxides (NOx), sulfur oxides (SOx), hydrogen chloride gas.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known	None Known	None Known
Sulfanilamide	3900 mg/kg (Rat)	None Known	None Known
Manganese sulfate monohydrate	None Known	None Known	None Known
Sodium citrate, dihydrate	None Known	None Known	None Known
Ammonium chloride	1410 mg/kg (Rat)	None Known	None Known

Chronic Toxicity

Chronic Toxicity Chronic manganese poisoning primarily involves the central nervous system. Chronic manganese poisoning can result from excessive inhalation and ingestion. Early symptoms include sluggishness, sleepiness, and weakness in the legs. Kidney effects. Chronic inhalation exposure can cause lung damage.

Chemical Name	ACGIH	IARC	NTP	OSHA
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known	None Known	None Known	None Known
Sulfanilamide	None Known	None Known	None Known	None Known
Manganese sulfate monohydrate	None Known	None Known	None Known	None Known
Sodium citrate, dihydrate	None Known	None Known	None Known	None Known
Ammonium chloride	None Known	None Known	None Known	None Known

Endocrine Disruptor Information

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known	None Known	None Known
Sulfanilamide	None Known	None Known	None Known
Manganese sulfate monohydrate	None Known	None Known	None Known
Sodium citrate, dihydrate	None Known	None Known	None Known
Ammonium chloride	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity

May be harmful to aquatic organisms.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known	None Known	None Known	None Known
Sulfanilamide	None Known	None Known	None Known	None Known
Manganese sulfate monohydrate	None Known	None Known	None Known	None Known
Sodium citrate, dihydrate	EC50 1800 - 3200 mg/L 96 h	LC50= 18000 mg/L Poecilia reticulata 96 h	None Known	None Known
Ammonium chloride	None Known	LC50= 209 mg/L Cyprinus carpio 96 h	None Known	EC50 = 202 mg/L 24 h

Chemical Name	Log Pow
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known
Sulfanilamide	None Known
Manganese sulfate monohydrate	None Known
Sodium citrate, dihydrate	None Known
Ammonium chloride	None Known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of in accordance with local regulations.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
N-(1-Naphthyl)ethylenediamine dihydrochloride - 1465-25-4	None Known	None Known	None Known	None Known
Sulfanilamide - 63-74-1	None Known	None Known	None Known	None Known
Manganese sulfate monohydrate - 10034-96-5	None Known	None Known	None Known	None Known
Sodium citrate, dihydrate - 6132-04-3	None Known	None Known	None Known	None Known
Ammonium chloride - 12125-02-9	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT

Not regulated

IATA

Not regulated

IMDG/IMO

Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4 (1)	Present	X	X	ENCS	X	KECL	X	X
Sulfanilamide 63-74-1 (2)	Present	X	X	3-1913; 3-1973; 3-2179	X	KE-01188	X	X
Manganese sulfate monohydrate 10034-96-5 (10)	TSCA	DSL	EINECS/ELINCS	ENCS	X	KECL	X	X
Sodium citrate, dihydrate 6132-04-3 (30-40)	TSCA	DSL	EINECS/ELINCS	ENCS	X	KECL	X	X
Ammonium chloride 12125-02-9 (45-55)	Present	X	X	1-218	X	KE-01645	X	X

U.S. 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	CAS-No	Weight %	SARA 313 - Threshold Values %
N-(1-Naphthyl)ethylenediamine dihydrochloride	1465-25-4	1	None Known
Sulfanilamide	63-74-1	2	None Known
Manganese sulfate monohydrate	10034-96-5	10	1.0
Sodium citrate, dihydrate	6132-04-3	30-40	None Known
Ammonium chloride	12125-02-9	45-55	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

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).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4 (1)	None Known	None Known	None Known	None Known
Sulfanilamide 63-74-1 (2)	None Known	None Known	None Known	None Known
Manganese sulfate monohydrate 10034-96-5 (10)	None Known	None Known	None Known	None Known
Sodium citrate, dihydrate 6132-04-3 (30-40)	None Known	None Known	None Known	None Known
Ammonium chloride 12125-02-9 (45-55)	5000 lb	None Known	None Known	X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
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N-(1-Naphthyl)ethylenediamine dihydrochloride	1465-25-4	1	None Known	None Known	None Known	None Known
Sulfanilamide	63-74-1	2	None Known	None Known	None Known	None Known
Manganese sulfate monohydrate	10034-96-5	10	Present (includes any unique chemical substance that contains Manganese as part of its infrastructure)	None Known	None Known	None Known
Sodium citrate, dihydrate	6132-04-3	30-40	None Known	None Known	None Known	None Known
Ammonium chloride	12125-02-9	45-55	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known	None Known
Sulfanilamide	None Known	None Known
Manganese sulfate monohydrate	None Known	None Known
Sodium citrate, dihydrate	None Known	None Known
Ammonium chloride	5000 lb	None Known

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

Chemical Name	CAS-No	California Prop. 65
N-(1-Naphthyl)ethylenediamine dihydrochloride	1465-25-4	None Known
Sulfanilamide	63-74-1	None Known
Manganese sulfate monohydrate	10034-96-5	None Known
Sodium citrate, dihydrate	6132-04-3	None Known
Ammonium chloride	12125-02-9	None Known

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known	None Known	None Known	None Known	None Known
Sulfanilamide	None Known	None Known	None Known	None Known	None Known
Manganese sulfate monohydrate	None Known	X	X	X	None Known
Sodium citrate, dihydrate	None Known	None Known	None Known	None Known	None Known
Ammonium chloride	X	X	X	None Known	X

International Regulations**Mexico - Grade**

Chemical Name	Carcinogen Status	Exposure Limits
N-(1-Naphthyl)ethylenediamine dihydrochloride	None Known	None Known
Sulfanilamide	None Known	None Known
Manganese sulfate monohydrate	None Known	Mexico: TWA= 0.2 mg/m ³
Sodium citrate, dihydrate	None Known	None Known
Ammonium chloride	None Known	Mexico: TWA= 10 mg/m ³



Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

Component	WHMIS Hazard Class
N-(1-Naphthyl)ethylenediamine dihydrochloride 1465-25-4 (1)	Not determined
Sulfanilamide 63-74-1 (2)	Not determined
Manganese sulfate monohydrate 10034-96-5 (10)	1 % D2B
Sodium citrate, dihydrate 6132-04-3 (30-40)	Uncontrolled product according to WHMIS classification criteria
Ammonium chloride 12125-02-9 (45-55)	1 % D2B



16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol						
	<table><tr><td>Health Hazard</td><td>2</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	2	Fire Hazard	0	Reactivity	0		
Health Hazard	2								
Fire Hazard	0								
Reactivity	0								

Prepared By

Regulatory Affairs Department

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Revision Note

Update to Format

Disclaimer

The information provided on this MSDS 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 MSDS