MATERIAL SAFETY DATA SHEET

Issuing Date 09-3-2010 **Revision date** 3/26/2013 **Revision Number** 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product name **DEHA REAGENT 3**

Product Code(s) 4793

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

Liquid and mist can cause burns to all body tissue
Harmful if swallowed, inhaled, or absorbed through skin
Vapor is irritating to eyes and respiratory tract

Appearance Clear, colorless **Physical state** liquid **Odor** odorless

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential health effects

Principle Routes of Exposure Ingestion, Skin and eye contact.

Acute toxicity

Eyes May cause burns. May cause irreversible damage to eyes. Vapors are irritating and may cause damage to eyes.

Skin Contact causes severe skin irritation and possible burns. Harmful if absorbed through skin.

Inhalation Harmful by inhalation. Depending on exposure, the effects from inhalation of corrosive mists can vary from mild irritation to serious damage to respiratory tract. Inhalation of corrosive mist may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate.

Ingestion Harmful if swallowed. Can burn mouth, throat, stomach, and GI tract. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. May cause additional affects as listed under "Inhalation".

Chronic effects

Aggravated Medical Conditions Hypersensitivity may occur in those with preexisting skin disorders. Respiratory disorders. Preexisting eye disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Ferric nitrate.9H2O	7782-61-8	1
Nitric acid	7697-37-2	2.8
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

General advice Do not get in eyes, on skin, or on clothing. Show this safety data sheet to the doctor in attendance.

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 plenty of water for at least 15 minutes. Wash skin with soap and water. Remove and wash contaminated clothing before re-use. Seek immediate medical attention/advice.

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 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.

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 combustible, but a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Flash point Not Applicable

Suitable extinguishing media Water spray, dry chemical, carbon dioxide (CO_2), or foam.

NFPA	**Health hazard** 2	**flammability** 0	**Stability** 0	**Physical and Chemical Hazards** -
HMIS	**Health hazard** 2	**flammability** 0	**Stability** 1	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Refer to Section 8. Use personal protective equipment. Avoid contact with skin, eyes, and inhalation of vapors.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

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 eat, drink, or smoke when using this product.

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place. Store away from strong bases or metals. Keep away from direct sunlight. Keep away from heat. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferric nitrate.9H2O 7782-61-8	TWA: 1 mg/m³	None known	TWA: 1 mg/m³
Nitric acid 7697-37-2	4 ppm STEL TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m³	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m³ STEL: 4 ppm STEL: 10 mg/m³
Water 7732-18-5	None known	None known	None known

Engineering Measures Showers
Eyewash stations
Ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face Protection Safety glasses with side-shields. If splashes are likely to occur, wear:. Face-shield.

Skin and body protection Wear protective gloves/clothing. Nitrile rubber. Impervious gloves. Gloves & Lab Coat.

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

Appearance	Clear, colorless	**Odor**	odorless
Physical state	liquid	**pH**	1
Flash point		Not Applicable	

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of use and storage.

Incompatible Products Strong bases. Metals. Combustible materials.

Conditions to avoid Excessive heat. Incompatible products.

Hazardous decomposition products Hazardous decomposition products formed under fire conditions -. Nitrogen oxides (NOx). Hydrogen nitrate.

Hazardous polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ferric nitrate.9H2O	3250 mg/kg (Rat)	None known	None known
Nitric acid	None known	None known	67 ppm (Rat) 4 h 130 mg/m³ (Rat) 4 h
Water	90 mL/kg (Rat)	None known	None known

Chronic toxicity

Chemical name	ACGIH	IARC	NTP	OSHA
Ferric nitrate.9H2O	None known	Group 2A	None known	X
Nitric acid	None known	Group 2A	None known	X
Water	None known	None known	None known	None known

IARC: (International Agency for Research on Cancer)
Cancer Status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions

Chemical name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Ferric nitrate.9H2O	None known	None known	None known
Nitric acid	None known	None known	None known
Water	None known	None known	None known

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Ferric nitrate.9H2O	None known	None known	None known	None known
Nitric acid	None known	None known	None known	None known
Water	None known	None known	None known	None known

Chemical name	Log Pow
Ferric nitrate.9H2O	None known
Nitric acid	= -2.3 25 °C
Water	None known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of contents/container in accordance with local regulation.

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Ferric nitrate.9H2O - 7782-61-8	None known	None known	None known	None known
Nitric acid - 7697-37-2	None known	None known	None known	None known
Water - 7732-18-5	None known	None known	None known	None known

14. TRANSPORT INFORMATION

DOT

Proper shipping name NITRIC ACID (<20%)
Hazard Class 8
UN-No 2031
Packing group II
Reportable Quantity (RQ) 1000 lb

IATA

UN-No	2031
Proper shipping name	NITRIC ACID (<20%)
Hazard Class	8
Packing group	II

IMDG/IMO

Proper shipping name	NITRIC ACID (<20%)
Hazard Class	8
UN-No	2031
Packing group	II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Ferric nitrate.9H2O 7782-61-8 (1)	TSCA	DSL	EINECS/ELINCS	ENCS	X	KECL	X	X
Nitric acid 7697-37-2 (2.8)	Present	X	X	Present	X	KE-25911	X	X
Water 7732-18-5 (to 100%)	Present	X	X	ENCS	X	KE-35400	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 %
Ferric nitrate.9H2O	7782-61-8	1	1.0
Nitric acid	7697-37-2	2.8	1.0
Water	7732-18-5	to 100%	None known

SARA 311/312 Hazard Categories

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

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
Ferric nitrate.9H2O 7782-61-8 (1)	None known	None known	None known	None known
Nitric acid 7697-37-2 (2.8)	1000 lb	None known	None known	X
Water 7732-18-5 (to 100%)	None known	None known	None known	None known

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

This product does not contain any HAPs.

Chemical name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Ferric nitrate.9H2O	7782-61-8	1	None known	None known	None known	None known

Nitric acid	7697-37-2	2.8	None known	None known	None known	None known
Water	7732-18-5	to 100%	None known	None known	None known	None known

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ
Ferric nitrate.9H2O	1000 lb	None known
Nitric acid	1000 lb	1000 lb
Water	None known	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
Ferric nitrate.9H2O	7782-61-8	None known
Nitric acid	7697-37-2	None known
Water	7732-18-5	None known

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ferric nitrate.9H2O	X	X	X	None known	X
Nitric acid	X	X	X	X	X
Water	None known	None known	None known	None known	None known

International Regulations

Mexico - Grade

Chemical name	Carcinogen Status	Exposure Limits
Ferric nitrate.9H2O	None known	Mexico: TWA 1 mg/m^3 Mexico: STEL 2 mg/m^3
Nitric acid	None known	Mexico: TWA 2 ppm Mexico: TWA 5 mg/m^3 Mexico: STEL 4 ppm Mexico: STEL 10 mg/m^3
Water	None known	None known

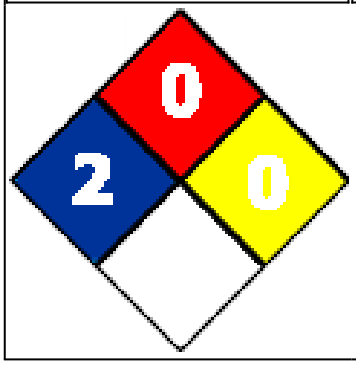
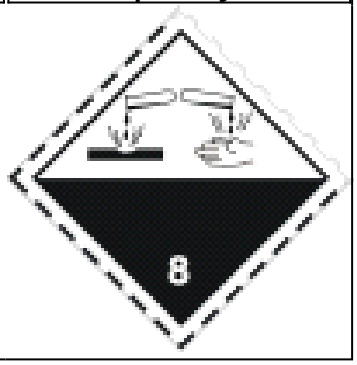
CANADA

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
Ferric nitrate.9H2O 7782-61-8 (1)	C
Nitric acid 7697-37-2 (2.8)	1 % C,E E C,D1B,E
Water 7732-18-5 (to 100%)	Uncontrolled product according to WHMIS classification criteria

Chemical name	NPRI
Nitric acid	X

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol
			

Health Hazard	2
Fire Hazard	0
Reactivity	1

Prepared by	Regulatory Affairs Department
Issuing Date	09-3-2010
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Revision note	MSDS was reviewed per Canada request - Canada requires MSDS to be dated within 3 years of the request. (M)SDS sections updated. 16.

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