



Issuing Date 9/3/2010

Revision Number 0

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** DEHA Reagent 3

**Product Code(s)** 4793

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

**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 or inhaled

Vapor is irritating to eyes and respiratory tract

**Appearance** Clear, colorless solution**Physical State** Liquid**Odor** Odorless

**OSHA Regulatory Status** Safety information is given for exposure to the reagent as sold and considers exposure to the chemical if user has direct eye and skin contact.

**Potential Health Effects**

**Principle Routes of Exposure** Skin contact, Ingestion

**Acute Toxicity****Eyes**

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

**Skin**

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

**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, and stomach. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional affects as listed under "Inhalation".

**Chronic Effects**

**Aggravated Medical Conditions** Respiratory disorders.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Nitric acid	7697-37-2	2.8

Ferric nitrate.9H <sub>2</sub> O	7782-61-8	1
Water	7732-18-5	to 100%

#### 4. FIRST AID MEASURES

<b>General Advice</b>	Do not get in eyes, on skin, or on clothing.
<b>Eye Contact</b>	Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. Seek immediate medical attention/advice.
<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>	Move 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 without medical advice. Call a physician immediately. Drink plenty of water. Clean mouth with water. Never give anything by mouth to an unconscious person.
<b>Protection of First-aiders</b>	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

**Suitable Extinguishing Media** Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), or foam.

**Explosion Data**  
**NFPA**

**Health Hazard** 2

**Flammability** 0

**Stability** 0

**Physical and Chemical Hazards** -

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Refer to Section 8. Use personal protective equipment. Avoid contact with skin, eyes and inhalation of vapors.
<b>Methods for Cleaning Up</b>	Cover spill with alkaline material (sodium bicarbonate) to neutralize, then containerize slurry, and hold for later disposal. If local regulations permit, dilute slurry with water and rinse to drain with excess water.. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

#### 7. HANDLING AND STORAGE

<b>Handling</b>	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.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from strong bases or metals. Keep out of the reach of children.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nitric acid 7697-37-2	= 4 ppm STEL TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m <sup>3</sup>	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup> STEL: 4 ppm

Ferric nitrate.9H <sub>2</sub> O 7782-61-8	TWA: 1 mg/m <sup>3</sup>	None Known	TWA: 1 mg/m <sup>3</sup>
Water 7732-18-5	None Known	None Known	None Known

**Personal Protective Equipment****Eye/Face Protection**

Safety glasses with side-shields.

**Skin and Body Protection**

Wear protective gloves/clothing.

**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 solution

**Odor**

Odorless

**Physical State**

Liquid

**pH**

1

**Boiling Point/Range**

100 °C

**Vapor Pressure**

No information available

**Vapor Density**

No information available

**10. STABILITY AND REACTIVITY****Stability**

Stable under normal conditions of use and storage.

**Incompatible Products**

Strong bases. Strong reducing agents. Finely powdered metals. Combustible materials.

**Conditions to Avoid**

Excessive heat. Incompatible products.

**Hazardous Decomposition Products** Nitrogen oxides (NO<sub>x</sub>).**Hazardous Polymerization**

Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION****Acute Toxicity**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid	None Known	None Known	7 mg/L ( Rat ) 4 h
Ferric nitrate.9H <sub>2</sub> O	3250 mg/kg ( Rat )	None Known	None Known
Water	90 mL/kg ( Rat )	None Known	None Known

**Chronic Toxicity**

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitric acid	None Known	None Known	None Known	None Known
Ferric nitrate.9H <sub>2</sub> O	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Nitric acid	None Known	None Known	None Known

Ferric nitrate.9H <sub>2</sub> O	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)
Nitric acid	None Known	LC50= 72 mg/L Gambusia affinis 96 h	None Known	None Known
Ferric nitrate.9H <sub>2</sub> O	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	Log Pow
Nitric acid	= -2.3 25 °C
Ferric nitrate.9H <sub>2</sub> O	None Known
Water	None Known

## 13. DISPOSAL CONSIDERATIONS

### Waste Disposal Method

Dispose of in accordance with local regulations.

Chemical Name
Nitric acid - 7697-37-2
Ferric nitrate.9H <sub>2</sub> O - 7782-61-8
Water - 7732-18-5

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Nitric acid - 7697-37-2	None Known	None Known	None Known	None Known
Ferric nitrate.9H <sub>2</sub> O - 7782-61-8	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known

Chemical Name	California Hazardous Waste Status
Nitric acid	Toxic; Corrosive; Ignitable

## 14. TRANSPORT INFORMATION

### DOT

Proper Shipping Name	NITRIC ACID (<20%)
Hazard Class	8
UN-No	2031
Packing Group	II
Reportable Quantity (RQ)	1000

### 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
Nitric acid 7697-37-2 ( 2.8 )	Present	X	X	1-394	X	KE-25911	X	X
Ferric nitrate.9H2O 7782-61-8 ( 1 )	TSCA	DSL	EINECS/ELINCS	1-355	X	KECL	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 %
Nitric acid	7697-37-2	2.8	1.0
Ferric nitrate.9H2O	7782-61-8	1	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**

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nitric acid 7697-37-2 ( 2.8 )	1000 lb	None Known	None Known	X
Ferric nitrate.9H2O 7782-61-8 ( 1 )	None Known	None Known	None Known	None Known
Water 7732-18-5 ( to 100% )	None Known	None Known	None Known	None Known

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Nitric acid	7697-37-2	2.8	None Known	None Known	None Known	None Known
Ferric nitrate.9H2O	7782-61-8	1	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	Extremely Hazardous Substances RQs
Nitric acid	1000 lb	1000 lb
Ferric nitrate.9H2O	None Known	None Known
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
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Nitric acid	7697-37-2	None Known
Ferric nitrate.9H <sub>2</sub> O	7782-61-8	None Known
Water	7732-18-5	None Known

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Nitric acid	X	X	X	X	X
Ferric nitrate.9H <sub>2</sub> O	None Known	None Known	X	None Known	X
Water	None Known	None Known	None Known	None Known	None Known

### International Regulations

#### Mexico - Grade

Chemical Name	Carcinogen Status	Exposure Limits
Nitric acid	None Known	Mexico: TWA= 2 ppm Mexico: TWA= 5 mg/m <sup>3</sup>
Ferric nitrate.9H <sub>2</sub> O	None Known	Mexico: TWA= 1 mg/m <sup>3</sup>
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.

#### WHMIS Hazard Class




E Corrosive material

C Oxidizing materials



Chemical Name	NPRI
Nitric acid	X

### 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>1</td></tr></table>	Health Hazard	2	Fire Hazard	0	Reactivity	1		
Health Hazard	2								
Fire Hazard	0								
Reactivity	1								

Prepared By

Regulatory Affairs Department

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**Revision Note**

Initial Release.

**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**