



# MATERIAL SAFETY DATA SHEET

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MSDS No. FF 60  
Effective Date October 23, 1998

## SECTION V HEALTH HAZARD DATA

FF 60

**Threshold Limited Value** ACGIH-TLV-1mg/m<sup>3</sup> (as Iron). Toxicity: Oral mouse LD50: 1000mg/Kg; oral gpg LD50: 350mg/Kg

**Effects of Overexposure** **INGESTION:** Excessive intake of soluble iron salts may lead to a generalized increased iron content in body tissues such as the liver. **EYES:** Contact irritant. **SKIN:** Contact irritant. **INHALATION:** May cause respiratory tract irritation. Exercise appropriate procedures to minimize potential hazards.

**Emergency and First Aid Procedures** **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Flush thoroughly with water, then wash with mild soap and water. **INHALATION:** Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention. **INGESTION:** If large amounts have been swallowed, get medical attention immediately. Never give anything by mouth to an unconscious person.

## SECTION VI REACTIVITY DATA

<b>Stability</b>	<b>Unstable</b>		<b>Conditions to Avoid</b>	Protect from light. Moisture-very deliquescent.
	<b>Stable</b>	X		

**Incompatibility (Materials to Avoid)** Strong oxidizers, strong alkalis.

**Hazardous Decomposition Products** Thermal decomposition or burning may produce oxides of nitrogen, carbon dioxide and/or carbon monoxide, ammonia fumes.

<b>Hazardous Polymerization</b>		<b>Conditions to Avoid</b>	Not applicable.
<b>May Occur</b>	<b>Will Not Occur</b>		
	X		

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled** Recover for use if not contaminated. Wear protective safety equipment and use adequate ventilation. Avoid making dust. Sweep up and place in a suitable container for disposal. Flush spill area with water.

**Waste Disposal Method** Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. For small quantities dissolve in water and flush to sewer with copious amounts of water or dispose of in an approved incinerator equipped with an afterburner and scrubber.

## SECTION VIII SPECIAL PROTECTION INFORMATION

**Respiration Protection (Specify Type)** None needed in normal laboratory handling. If dusty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved dust mask or respirator.

<b>Ventilation</b>	<b>Local Exhaust</b>	Yes.	<b>Special</b>	No.
	<b>Mechanical (General)</b>	Recommended.	<b>Other</b>	No.

**Protective Gloves** Rubber. **Eye Protection** Chemical safety glasses.

**Other Protective Equipment** Eye wash station, lab coat, proper gloves, safety glasses, ventilation hood.

## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing** Store in a cool, dry place in a tightly sealed container. Protect from light. Wash thoroughly after handling. Keep container tightly closed when not in use.

**Other Precautions** Read label on container before using. Do not wear contact lenses when working with chemicals.

Remove and wash contaminated clothing. Do not breathe vapors.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

<b>Revision</b> No. 5	<b>Date</b> 10/23/98	<b>Approved</b> Michael Raszeja	<b>Chemical Safety Coordinator</b> MR
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The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. \* Hazardous Materials Industrial Standards. Printed on recycled paper.

## SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

<b>Product</b>	FERRIC AMMONIUM CITRATE	<p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING</p> <table border="1"> <tr> <td>LEAST</td> <td>SLIGHT</td> <td>MODERATE</td> <td>HIGH</td> <td>EXTREME</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table> <p>HMIS *</p> <table border="1"> <tr> <td>Health</td> <td>1</td> </tr> <tr> <td>Fire</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>1</td> </tr> </table>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	1	Fire	0	Reactivity	1
LEAST	SLIGHT		MODERATE	HIGH	EXTREME													
0	1		2	3	4													
Health	1																	
Fire	0																	
Reactivity	1																	
<b>Chemical Synonyms</b>	Ammonium Ferric Citrate																	
<b>Formula</b>	Undetermined structure																	
<b>Unit Size</b>	up to 2.5 Kg.																	
<b>C.A.S. No.</b>	1185-57-5																	

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
(a) Ferric Ammonium Citrate (Brown).	100%	None established.
(b) Ferric Ammonium Citrate (Green).	100%	None established.

**CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES AND**

**MUCOUS MEMBRANES.**

## SECTION III PHYSICAL DATA

<b>Melting Point (°F)</b>	Decomposes on heating.	<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	Unknown. (Variable)
<b>Boiling Point (°F)</b>	Decomposes.	<b>Percent Volatile by Volume (%)</b>	Non-volatile (NA).
<b>Vapor Pressure (mm Hg)</b>	Negligible as solid.	<b>Evaporation Rate ( =1)</b>	Non-volatile (NA).
<b>Vapor Density (Air=1)</b>	Data not listed.		
<b>Solubility in Water</b>	25 grams per 100 mL water.		
<b>Appearance &amp; Odor</b>	(a) Reddish-brown granular, powder. (b) Green transparent, scales, pearls, granules, or powder; no odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

<b>Flash Point (Method Used)</b>	Non-flammable (NA).	<b>Flammable Limits in Air % by Volume</b>	NA	Lower	Upper
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**Extinguisher Media** Water spray; carbon dioxide (CO<sub>2</sub>); dry chemical (ABC).

## SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus.

	(a)	(b)
Ammonia: CAS No. 7664-41-7	.....9%	.....7.5%
Iron: CAS No. 7439-89-6	.....16.5-18.5%	.....14.5-16%
Citric Acid, hydrated: CAS No. 5949-29-1	.....65%	.....75%

## UNUSUAL FIRE AND EXPLOSION HAZARDS

Nil or zero (Bureau of mines relative explosion hazard rating scale) as dust. Melts and decomposes with emission of ammonia, carbon dioxide and/or carbon monoxide; can react vigorously with oxidizing materials.

D.O.T. NON-REGULATED.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20