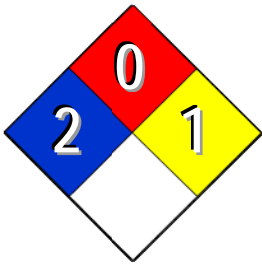



MATERIAL SAFETY DATA SHEET



NFPA	HMIS	PPE	Symbol(s)
		 Regulated	
Current Issue Date: March 1, 2014		Revision Number: 1	
1. PRODUCT AND COMPANY IDENTIFICATION			
Product Name:	Ferric Sulfate 60%		
Other/Generic Names:	Ferric Sulfate Solution, Chemfloc Ferrique, Ferric sulfate 12		
Recommended Use:	Water Purification		
Manufacturer:	Chemtrade Solutions LLC 90 East Halsey Road Parsippany, NJ 07054		
	Chemtrade Chemicals Canada Ltd. 90 East Halsey Road Parsippany, NJ 07054		
For More Information:	Customer Service US ONLY: 800-631-8050 (Monday – Friday 9:00AM – 4:30PM)		
	Customer Service CANADA ONLY: 866-543-3896 (Monday – Friday 9:00AM – 4:30PM)		
Emergency Telephone Number:	US ONLY - CALL CHEMTREC: 800-424-9300 (24 Hours/Day, 7 Days/Week) OUTSIDE THE US – CALL CHEMTREC: 703-527-3887 (24 Hours/Day, 7 Days/Week) CANADA ONLY - CALL CANUTEC: 613-996-6666 (24 Hours/Day, 7 Days/Week)		
2. HAZARDS IDENTIFICATION			
EMERGENCY OVERVIEW:	A brown to reddish liquid with negligible odor. May irritate or burn the skin and eyes. May be corrosive to steel and other metals. May be harmful if swallowed. Not flammable, but may release toxic vapors if decomposed in a fire.		
OSHA Status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)		
Potential Health Affects			
Skin:	May cause irritation or burns.		
Eyes:	May irritate or burn the eyes.		
Inhalation:	Product mists may cause irritation to the respiratory tract.		
Ingestion:	May irritate the gastrointestinal tract. May cause burns to the digestive tract.		
Delayed Effects:	Erosion of teeth, lesions of the skin, tracheo-bronchitis, mouth inflammation, conjunctivitis and gastritis. IARC and NTP have classified “strong inorganic acid mists containing sulfuric acid” as a known human carcinogen. This classification is for inorganic acid mists only and does not apply to sulfuric acid or sulfuric acid solutions. The basis for the classifications rests on several epidemiology studies which have several deficiencies. These studies did not account for exposure to other substances, some known to be animal or potential human carcinogens, social influences (smoking or alcohol consumption) and included small numbers of subjects. Based on the overall weight of evidence from all human and chronic animal studies, no definitive causal relationship between sulfuric acid mist exposure and respiratory tract cancer has been shown.		

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3. COMPOSITION/INFORMATION ON INGREDIENTS		
Component	CAS No	Weight %
Ferric sulfate	10028-22-5	60
Sulfuric acid	7664-93-9	1
Water	7332-18-5	Balance
4. FIRST AID MEASURES		
Eye Contact	Immediately flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.	
Skin Contact	Flush with plenty of water, removing contaminated clothing. If irritation develops, get medical attention.	
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get prompt medical attention.	
Ingestion	Do not induce vomiting. Immediately give large quantities of water. Get medical attention immediately.	
Notes to Physician	Treat symptomatically	
5. FIRE-FIGHTING MEASURES		
FLASH POINT:	Not Flammable	
FLASH POINT METHOD:	Not Applicable	
AUTOIGNITION TEMPERATURE:	Not Applicable	
UPPER FLAME LIMIT (VOLUME % IN AIR):	Not Applicable	
LOWER FLAME LIMIT (VOLUME % IN AIR):	Not Applicable	
FLAME PROPAGATION RATE (SOLIDS):	Not Applicable	
OSHA FLAMMABILITY CLASS:	Not Applicable	
SUITABLE EXTINGUISHING MEDIA:	Water spray, foam, carbon dioxide or dry chemical	
UNSUITABLE EXTINGUISHING MEDIA:	No information available	
HAZARDOUS COMBUSTION PRODUCTS	No information available	
Impact sensitivity	No information available	
Sensitivity to static discharge	No information available	
SPECIFIC HAZARDS ARISING FROM THE CHEMICAL	At elevated temperatures, product will decompose into iron oxide (rust) and sulfur trioxide (corrosive and toxic).	
PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS	Wear self-contained breathing apparatus (SCBA) and full protective equipment. Use water spray to keep containers cool.	
6. ACCIDENTAL RELEASE MEASURES		
IN CASE OF SPILL OR RELEASE	Absorb small spills or leaks with clay or other inert and neutralize residue with soda ash or sodium bicarbonate. Contain large spills with clay or other inert materials. Mop or pump into clean containers.	
7. HANDLING AND STORAGE		
Handling	Keep container tightly closed when not in use. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Remove contaminated clothing and wash thoroughly after handling. Use good housekeeping and personal hygiene.	
Storage	Keep storage container tightly closed. Store in a cool, dry, well-ventilated area or cabinet. Isolate from incompatible substances. Store and ship in plastic or rubber-lined containers.	

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION					
<u>Component</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>Ontario TWAEV</u>	<u>Mexico OEL (TWA)</u>	<u>NIOSH IDLH</u>
Ferric sulfate	1 mg/m ³	1 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³ STEL: 2 mg/m ³	
Sulfuric acid	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	15 mg/m ³
Engineering Measures Use local exhaust to keep airborne concentrations below the permissible exposure limits.					
Personal Protective Equipment					
Eye/face Protection	Wear chemical safety goggles or face shield. Do not wear contact lenses.				
Skin Protection	Wear appropriate personal protective clothing to prevent skin contact. If prolonged or repeated contact is anticipated, all clothing should be impervious to liquid.				
Respiratory Protection	A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.				
General Hygiene Considerations	To identify additional Personal Protective Equipment (PPE) requirements, it is recommended that a hazard assessment in accordance with the OSHA PPE Standard (29CFR 1910.132) be conducted before using this product. Eyewash and safety showers are recommended.				
9. PHYSICAL AND CHEMICAL PROPERTIES					
Appearance	Brown to reddish liquid				
Color	Brown to reddish				
Chemical Formula	Mixture				
Odor	Negligible				
Odor Threshold	No information available				
Physical State	Liquid				
pH	~1.0				
Flash Point	Not flammable				
Autoignition Temperature	Not applicable				
Boiling Point/Range	~100 °C / ~212°F				
Melting Point/Range	~-50°C /~-58°F				
Flammability Limits in Air	No information available				
Explosive Properties	No information available				
Oxidizing Properties	No information available				
Evaporation Rate	Not determined				
Vapor Pressure	Not applicable				
Vapor Density	Not applicable				
Specific Gravity	1.57 -1.62				
Partition Coefficient (n-octano/water)	No information available				
Viscosity	No information available				
Molecular Weight	Mixture				
Water Solubility	100				
10. STABILITY AND REACTIVITY					
Chemical Stability	Normally stable.				
Conditions to Avoid	Avoid alkalis.				
Incompatible Products	Material is corrosive to mild steel, copper, copper alloys and galvanized steel. May be corrosive to paint, enamel, and concrete. Reacts with lime and other basic materials to form insoluble iron salts.				
Hazardous Decomposition Products	Thermal decomposition can yield oxides of sulfur.				
Possibility of Hazardous Reactions	Will not occur.				

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11. TOXICOLOGICAL INFORMATION					
Acute Toxicity					
Component Information					
Component	LD50 Oral	LD50 Dermal	LC50 Inhalation		
Ferric sulfate	168 mg/kg (mouse, intraperitoneal) 5000 mg/kg (rat)				
Sulfuric acid	2140 mg/kg (rat)		510 mg/m ³ / 2 hr (rat) 320 mg/m ³ / 2 hr (mouse)		
Irritation	No information available				
Corrosivity	No information available				
Sensitization	No information available				
Chronic Toxicity					
Carcinogenicity	This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group 1), potentially carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).				
Component	ACGIH	IARC	NTP	OSHA	Mexico
Sulfuric acid	A2	Group 1	Known	X	A2
Mutagenic Effects	No information available				
Reproductive Effects	No information available				
Developmental Effects	No information available				
Teratogenicity	No information available				
Target Organ Effects	No information available				
Other Adverse Effects	DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS: IARC and NTP have classified "strong inorganic acid mists containing sulfuric acid" as known as human carcinogens. No definitive causal relationship between sulfuric acid mist exposure and respiratory cancer has been shown.				
Endocrine Disruptor Information	No information available				
12. ECOLOGICAL INFORMATION					
Ecotoxicity					
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.					
Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea	
Ferric sulfate		LC50= 37.2 mg/L Gambusia affinis 96h			
Sulfuric acid		LC50>500 mg/L Brachydanio rerio 96 h		EC50 = 29 mg/L 24 h	
Persistence and Degradability	No information available				
Bioaccumulation	No information available				
Mobility in Environmental Media	No information available				
Other adverse effects	Sulfuric acid component: 24.5 ppm 24 hr/ bluegill/lethal/fresh water; 42.5 ppm/48 hr/prawn/LC50/salt water				
13. DISPOSAL CONSIDERATIONS					
Waste Disposal Methods	Dispose of waste in accordance with all federal, state, and local regulations.				
Contaminated Packaging	Empty containers should be taken for local recycling, recovery or waste disposal.				

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14. TRANSPORT INFORMATION				
DOT	Regulated			
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (contains ferric sulfate)			
Hazard Class	8			
UN-No	UN3264			
Packing Group	PGIII			
TDG	Regulated			
Hazard Class	8			
UN-No	UN3264			
Packing Group	PGIII			
15. REGULATORY INFORMATION				
International Inventories				
TSCA	Yes			
DSL	Yes			
ELINCS	No			
EINECS	Yes			
ENCS	Yes			
CHINA	Yes			
KECL	Yes			
PICCS	Yes			
AICS	Yes			
U.S. Federal Regulations				
SARA 313				
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains the following chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372: None				
<u>Component</u>	<u>CAS-No</u>	<u>Weights %</u>	<u>SARA 313-Threshold Values</u>	
SARA 311/312 Hazardous Categorization				
Chronic Health Hazard	No			
Acute Health Hazard	Yes			
Fire Hazard	No			
Sudden Release of Pressure Hazard	No			
Reactive Hazard	No			
Clean Water Act				
<u>Component</u>	<u>CWA – Reportable Quantities</u>	<u>CWA – Toxic Pollutants</u>	<u>CWA – Priority Pollutants</u>	<u>CWA – Hazardous Substances</u>
Ferric sulfate	1000 lb			X
Sulfuric acid	1000 lb			X
CERCLA				
<u>Component</u>	<u>CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>		
Ferric sulfate	1000 lb			
Sulfuric acid	1000 lb			
Releases above the RQ require immediate reporting to the National Response Center at (800) 424-8802 and to the state and/or local emergency planning committees.				

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<u>U.S. State Regulations</u>					
California Proposition 65					
"Strong inorganic acid mists containing sulfuric acid" has been listed on California's Proposition 65 as a cancer-causing agent.					
<u>Component</u>	<u>CAS-No</u>		<u>California Prop. 65</u>		
Sulfuric acid	7664-93-9		Carcinogen		
<u>State Right-to-Know</u>					
<u>Component</u>	<u>Massachusetts</u>	<u>New Jersey</u>	<u>Pennsylvania</u>	<u>Illinois</u>	<u>Rhode Island</u>
Ferric sulfate	X	X	X		X
Sulfuric acid	X	X	X	X	X
<u>Other International Regulations</u>					
Mexico	No information available				
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					
D2B Toxic materials					
16. OTHER INFORMATION					
Current Issue Date:	March 1, 2014				
Previous Issue Date:	April 5, 2013				
Revision Summary:	Company name change				
Disclaimer:					
All information, statements, data, advice and/or recommendations, including, without limitation, those relating to storage, loading/unloading, piping and transportation (collectively referred to herein as "information") are believed to be accurate and reliable. However, no representation or warranty, express or implied, is made as to its completeness, accuracy, fitness for a particular purpose or any other matter, including, without limitation, that the practice or application of any such information is free of patent infringement or other intellectual property misappropriation. Chemtrade Logistics Inc. and its affiliates (collectively, "Chemtrade") are not engaged in the business of providing technical, operational, engineering or safety information for a fee, and, therefore, any such information provided herein has been furnished as an accommodation and without charge. All information provided herein is intended for use by persons having requisite knowledge, skill and experience in the chemical industry. Chemtrade shall not be responsible or liable for the use, application or implementation of the information provided herein, and all such information is to be used at the risk, and in the sole judgment and discretion, of such persons, their employees, advisors and agents.					
End of MSDS					