



MATERIAL SAFETY DATA SHEET

Name of Product:

NACHURS MicroBolt Fe™

Product #: F000105

Revision Date: Aug 3, 2012

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: NACHURS MicroBolt Fe™
SYNONYMS: Iron 4.5% HEDTA; Liquid micronutrient solution
PRODUCT CODES: F000066, F000105

MANUFACTURER: NACHURS ALPINE SOLUTIONS®
DIVISION: Marion
ADDRESS: 421 Leader Street, Marion, OH 43302, United States

EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)

CHEMICAL NAME: Liquid Fertilizer Micronutrient Compound
CHEMICAL FAMILY: Micronutrient Solution
CHEMICAL FORMULA: N/A

PRODUCT USE: Agricultural Nutrient Supply

PREPARED BY: NACHURS ALPINE SOLUTIONS®

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Product may cause oxygen deficiency in an enclosed space; follow all OSHA regulations pertaining to enclosed space entry. See Health Effects below.

ROUTES OF ENTRY: Inhalation, Ingestion, Injection, Absorption

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation, redness and pain.
SKIN: May cause irritation. Prolonged or repeated exposure may lead to reddening of skin, rash, dermatitis, or other skin reactions.
INGESTION: Harmful if swallowed. May cause irritation, nausea, stomach pain.
INHALATION: Inhalation of mist may cause irritation of the upper respiratory tract.

ACUTE HEALTH HAZARDS: See above.

CHRONIC HEALTH HAZARDS: None reported.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None reported.

CARCINOGENICITY:

OSHA: No data established
ACGIH: No data established
NTP: No data established
IARC: No data established
OTHER: N/A

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL SAFETY DATA SHEET

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Name of Product: **NACHURS MicroBolt Fe™**

Revision Date: Aug 3, 2012

INGREDIENT:	Iron (Fe) as metal	4.5%
	HEDTA, ferric complex	26-28%
	Sodium Nitrate	19-21%
	Nitrilotriacetic acid (NTA)	0.5-0.8%
	Water	45.7-50%

CAS NO.:	Iron (Fe) as metal	7439-89-6
	HEDTA, ferric complex	17084-.02-5
	Sodium Nitrate	7631-99-4
	Nitrilotriacetic acid (NTA)	139-13-9
	Water	7732-18-5

% WT:

% VOL:

SARA 313 REPORTABLE: N/A

pmm:

mg/m3:

OSHA PEL-TWA: 15 mg/m3-for EDTA, Ferric Sodium Complex

OSHA PEL STEL: N/A

OSHA PEL CEILING: N/A

ACGIH TLV-TWA: 10 mg/m3-for EDTA, Ferric Sodium Complex

ACGIH TLV STEL: N/A

ACGIH TLV CEILING: N/A

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Flush with water immediately and thoroughly for 15 minutes. Lift eyelids to facilitate irrigation. Seek medical attention if eye irritation persists.

SKIN: Remove contaminated clothing & wash before re-using. Flush skin with water & then wash with soap & water. Seek medical attention if skin becomes irritated.

INGESTION: CALL POISON CONTROL. If conscious, immediately give water or milk to dilute stomach acid. DO NOT INDUCE VOMITING. If spontaneous vomiting should occur, lean head below hips to prevent aspiration of liquid into lungs. Seek immediate medical attention.

INHALATION: Under normal circumstances, is not an inhalation hazard. If misted and inhaled, seek medical attention.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

SECTION 4 NOTES:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR:	UPPER:	N/A
(% BY VOLUME)	LOWER:	N/A

FLASH POINT:

F°:	N/A
C°:	N/A

METHOD USED: N/A

AUTOIGNITION TEMPERATURE:

F°:	N/A
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C°: N/A
NFPA HAZARD CLASSIFICATION:
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0
OTHER: 0

HMIS HAZARD CLASSIFICATION
HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 0
PROTECTION:

EXTINGUISHING MEDIA: Water or media suitable for surrounding material.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and full bunker gear. Smoke and fumes from fire may contain hazardous components.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode from vapors expansion in high heat. Contain run-off by diking to prevent contamination to water supplies.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic gases may be formed in a fire situation. Carbon Monoxide and other asphyxiates may form as well.

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Do not release into sewers or waterways. Dike spills to prevent contamination to water supplies. Contain spills-absorb liquids by covering with clay or other absorbent material, vacuum, scoop or sweep up waste and place in a container for disposal. Clean up personnel should protect against mist inhalation and skin contact.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Store in cool, dry areas away from children, feed and food products and sources of heat. Do not store in aluminum or metal vessels. Keep containers tightly closed when not in use and store away from incompatible materials. Protect from freezing.

OTHER PRECAUTIONS: General safety and industrial hygienic practices should always be followed. Remove contaminated clothing and wash before reuse. Immediately clean up spills that occur during handling or storage.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use adequate general and local exhaust ventilation to keep airborne concentrations below exposure limits.

VENTILATION: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PEL's. Local exhaust ventilation is preferred.

RESPIRATORY PROTECTION: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29CFR1910.134) and if necessary, wear an MSHA/NIOSH

MATERIAL SAFETY DATA SHEET

Product #: F000105

Name of Product: **NACHURS MicroBolt Fe™**

Revision Date: Aug 3, 2012

approved respirator.

EYE PROTECTION: Chemical splash goggles and full-face shield.

SKIN PROTECTION: Rubber gloves.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Wear chemically protective boots, aprons and gauntlets to prevent prolonged or repeated skin contact.

WORK HYGIENIC PRACTICES: Wash hands thoroughly after handling.

EXPOSURE GUIDELINES: See Section 2.

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Reddish brown liquid

ODOR: Odorless

PHYSICAL STATE: Liquid

pH AS SUPPLIED: 4.00-6.00
pH (Other):

BOILING POINT:
F°: 212
C°: 100

MELTING POINT:
F°: 32
C°: 0

FREEZING POINT:
F°: 32
C°: 0

VAPOR PRESSURE (mmHg) @
F°: N/A
C°: N/A

VAPOR DENSITY (AIR = 1) @
F°: N/A
C°: N/A

SPECIFIC GRAVITY (H₂O = 1) 1.37-1.39
DENSITY, LBS/GAL: 11.41-11.58

EVAPORATION RATE: N/A

SOLUBILITY IN WATER: Complete

PERCENT SOLIDS BY WEIGHT: 50-54.3%

PERCENT VOLATILE:
BY WT
BY VOL @F°: N/A
C°: N/A

VOLATILE ORGANIC COMPOUNDS (VOC): None
WITH WATER LBS/GAL:

MATERIAL SAFETY DATA SHEET

Product #: F000105

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WITHOUT WATER LBS/GAL:

MOLECULAR WEIGHT: N/A

VISCOSITY: N/A

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

	STABLE	UNSTABLE
STABILITY:	x	
CONDITIONS TO AVOID (STABILITY):	Extreme heat.	
INCOMPATIBILITY (MATERIAL TO AVOID):	Strong bases and acids.	
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:	Toxic gases may be formed in a fire situation. Carbon Monoxide and other asphyxiates may form as well.	
HAZARDOUS POLYMERIZATION:	Will not occur.	
CONDITIONS TO AVOID (POLYMERIZATION):	N/A	

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: No data established for this product. For major ingredients:

HEDTA, ferric complex	LD50 (Oral, Rat) :	>5000 mg/kg
Sodium Nitrate	LD50 (Oral, Rat):	1267 mg/kg
	LD50 (Oral, Rabbit):	2680 mg/kg

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Do not allow entry into drinking water. This product is a fertilizer solution. Release of large quantities into a body of water can substantially alter the nutrient composition effect on aquatic plants, fish, and animal life.

No data established for this product. For major ingredients:

Sodium Nitrate	LC50 (Fathead Minnows, 96hr):	1000 mg/L
	LC50 (Water Flea, 96hr):	1000 mg/L

SECTION 12 NOTES:

MATERIAL SAFETY DATA SHEET

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Name of Product: **NACHURS MicroBolt Fe™**

Revision Date: Aug 3, 2012

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Users of this product should review their operations in terms of applicable federal, state, and local laws and regulations, then consult with appropriate regulatory agent before discharging or disposing.

RCRA HAZARD CLASS: N/A

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION:

PROPER SHIPPING NAME: NACHURS MicroBolt Fe™

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT: N/A

Health: 1 Flammability: 0 Reactivity: 0 Specific: None

WATER TRANSPORTATION:

PROPER SHIPPING NAME: NACHURS MicroBolt Fe™

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENT:

Health: 1 Flammability: 0 Reactivity: 0 Specific: None

AIR TRANSPORTATION

PROPER SHIPPING NAME: NACHURS MicroBolt Fe™

HAZARD CLASS: N/A

ID NUMBER: N/A

PACKING GROUP: N/A

LABEL STATEMENTS:

Health: 1 Flammability: 0 Reactivity: 0 Specific: None

OTHER AGENCIES:

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA (TOXIC SUBSTANCE CONTROL ACT): Yes

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): No

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): N/A

311/312 HAZARD CATEGORIES: N/A

313 REPORTABLE INGREDIENTS: Iron (Fe) as metal, HEDTA ferric complex, Sodium Nitrate, Nitrotriacetic acid (NTA)

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STATE REGULATIONS:

INTERNATIONAL REGULATIONS:

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

PREPARATION INFORMATION: Technical Services

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