MATERIAL SAFETY DATA SHEET

Hi-Yield® Iron Plus

DATED: 03-14-03

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION Name: Voluntary Purchasing Groups, Inc., P. O. Box 460, Bonham, Texas 75418

Emergency Telephone: (903) 583-5501 or (800) 424-9300 (Chemtrec) For Additional Information Contact: Product Manager or Chemtrec Common Name (Used on Label): Hi-Yield Iron Plus Formula: Proprietary

SECTION 2 - COMPOSITION	N / INFORMATION	ON INGREDIENTS	
INGREDIENTS:	CAS. Reg. #	Approx. %	TLV
Chemically reacted:	0		
- Anhydrous Ammonia	13767-16-3		
- Sulfuric Acid	7664-93-9		
- Iron Oxide	1309-37-1		
SECTION 3 - PHYSICAL AN			
BOILING POINT:	N/A	VAPOR PRESSURE (mm/Hg):	N/A
MELTING POINT:	>455°F	VAPOR DENSITY (air=1):	N/A
SPECIFIC GRAVITY:	N/A	REACTIVITY IN WATER:	None
SOLUBILITY IN WATER:	Yes		
APPEARANCE AND ODOR:	Odorless, reddis	sh colored Granules	
OTHER:	-		
SECTION 4 - FIRE AND EXE	PLOSION DATA		
FLASH POINT:	N/A		
FLAMMABLE LIMITS:	N/A	LEL:	UEL:
EXTINGUISHER MEDIA:	Dry Ch	emical, Carbon Dioxide, Water Spra	ay, or regular foam.
SPECIAL FIRE FIGHTING PRO	DCEDURES: No aci	ute hazard, avoid breathing vapors/o	dust, keep upwind
		<i>,</i> 0 1	· · · ·
SECTION 5 - PHYSICAL HA	·`	·····	
STABILITY: Stable:	ZARDS (REACTIN Yes	/ITY DATA) Unstable:	
STABILITY: Stable: CONDITIONS TO AVOID: N/A	Yes	Unstable:	
STABILITY: Stable:	Yes	Unstable: Ammonium Nitrate, Potassium or	
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA	Yes L TO AVOID:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N	litrite, Strong Oxidizers.
STABILITY: Stable: CONDITIONS TO AVOID: N/A	Yes L TO AVOID:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F	litrite, Strong Oxidizers.
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA	Yes L TO AVOID: DN PRODUCTS:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide.	litrite, Strong Oxidizers.
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIC HAZARDOUS POLYMERIZATI	Yes L TO AVOID: DN PRODUCTS: ION:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide.	litrite, Strong Oxidizers. with emission of ammonia and
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO	Yes L TO AVOID: DN PRODUCTS: ION:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will No	litrite, Strong Oxidizers. with emission of ammonia and
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIC HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/	Yes L TO AVOID: DN PRODUCTS: ION: Y):	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will No	litrite, Strong Oxidizers. with emission of ammonia and
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIC HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will Ne Not Relevant	litrite, Strong Oxidizers. with emission of ammonia and
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL):	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will Ne Not Relevant	litrite, Strong Oxidizers. with emission of ammonia and
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp Threshold Limit Value	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL): (TLV):	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will No Not Relevant Not Relevant	litrite, Strong Oxidizers. with emission of ammonia and ot Occur: No
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL): (TLV): OSH PEL:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will Ne Not Relevant Not Relevant Not Established* Not Established* TWA 15 mg/m ³ ; Respira	litrite, Strong Oxidizers. with emission of ammonia and ot Occur: No able 5 mg/m ³
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp Threshold Limit Value *Nuisance Particulate:	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL): (TLV):	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will No Not Relevant Not Relevant	litrite, Strong Oxidizers. with emission of ammonia and ot Occur: No able 5 mg/m ³
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp Threshold Limit Value *Nuisance Particulate: B. ROUTE OF ENTRY	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL): (TLV): OSH PEL: ACGIH TLV:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will Ne Not Relevant Not Relevant Not Established* Not Established* TWA 15 mg/m ³ ; Respira TWA Total dust: 10 mg/r	litrite, Strong Oxidizers. with emission of ammonia and ot Occur: No able 5 mg/m ³ m ³
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp Threshold Limit Value *Nuisance Particulate: B. ROUTE OF ENTRY Inhalation:	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL): (TLV): OSH PEL: ACGIH TLV: Yes	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will Ne Not Relevant Not Relevant Not Established* TWA 15 mg/m ³ ; Respira TWA Total dust: 10 mg/r Eyes:	litrite, Strong Oxidizers. with emission of ammonia and ot Occur: No able 5 mg/m ³ m ³ Yes
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp Threshold Limit Value *Nuisance Particulate: B. ROUTE OF ENTRY Inhalation: Ingestion:	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL): (TLV): OSH PEL: ACGIH TLV: Yes Yes Yes	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will Ne Not Relevant Not Relevant Not Established* TWA 15 mg/m ³ ; Respira TWA Total dust: 10 mg/r Eyes: Skin:	litrite, Strong Oxidizers. with emission of ammonia and ot Occur: No able 5 mg/m ³ m ³ Yes No
STABILITY: Stable: CONDITIONS TO AVOID: N/A INCOMPATIBILITY, MATERIA HAZARDOUS DECOMPOSITIO HAZARDOUS POLYMERIZATI CONDITIONS TO AVOID (POL SECTION 6 - HEALTH HAZ/ A. EXPOSURE LIMTS OSHA Permissible Exp Threshold Limit Value *Nuisance Particulate: B. ROUTE OF ENTRY Inhalation: Ingestion: C. HEALTH HAZARD, ACU	Yes L TO AVOID: DN PRODUCTS: ION: Y): ARDS Dosure Limit (PEL): (TLV): OSH PEL: ACGIH TLV: Yes Yes TE AND CHRONIC:	Unstable: Ammonium Nitrate, Potassium or Potassium Chlorate, Potassium N Melts and decomposes at 445°F sulfur trioxide. May Occur: Will Ne Not Relevant Not Relevant Not Established* TWA 15 mg/m ³ ; Respira TWA Total dust: 10 mg/r Eyes:	litrite, Strong Oxidizers. with emission of ammonia and ot Occur: No able 5 mg/m ³ m ³ Yes No per respiratory tract, may be

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D. EMERGENCY FIRST AID PROCEDURES:

Eyes:Flush with water at least 15 minutes.Inhalation:Remove to fresh air.

Skin: Wash with soap and large amounts of water. **Ingestion:** Do not induce vomiting.

E. ADDITIONAL INFORMATION: Get medical attention for exposure to eyes, ingestion, inhalation, exposure, or other persistent symptoms.

SECTION 7 - SPECIAL PRECAUTIONS & SPILL/LEAK PROCEDURES

HANDLING AND STORAGE: Store material in a dry area. Separate from strong oxidizers. STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED: Collect spill material and store in dry area until disposed. WASTE DISPOSAL METHODS: Dispose of in accordance with Federal, State and Local Regulations.

SECTION 8 - SPECIAL PROTECTION/CONTROL MEASURES		
VENTILATION:	Local exhaust ventilation system.	
SPECIAL VENTILATION:	N/A	
PROTECTIVE GLOVES:	Wear protective clothing impervious to this material.	
EYE PROTECTION:	Use chemical goggles. Use full-face respirator when there is any likelihood of splashes.	
OTHER SPECIAL CLOTHING/EQUIPMENT: WORK/HYGIENIC PRACTICES:	Eye wash fountain should be located in immediate work area. Remove and launder contaminated clothing before reuse.	

SECTION 9 - ENVIRONMENTAL EFFECTS DATA

SECTION 10 - TRANSPORTATION DATA		
PROPER SHIPPING NAME:	MICROMATE NS® SEVENTEEN PERCENT IRON	
	NON-HAZARDOUS MATERIAL	
	NON-REGULATED MATERIAL	
D.O.T. HAZARD CLASS:		
PLACARD:		

ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Voluntary Purchasing Groups, inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Voluntary Purchasing Groups, Inc. has been advised of the possibility of such damages.