



## Safety Data Sheet

### SECTION 1: Identification

#### 1.1. Product Identifier

**Trade Name or Designation:** VeriSpec<sup>®</sup> Iron (Fe) Standard for AAS 1000 ppm in 12% Ethanol  
Manufactured and Tested in an ISO 17025/Guide 34 Accredited Facility

**Product Number:** RV010118

**Other Identifying Product Numbers:** RV010118-100N, RV010118-500N

#### 1.2. Recommended Use and Restrictions on Use

Calibration Standard

#### 1.3. Details of the Supplier of the Safety Data Sheet

**Company:** Ricca Chemical Company

**Address:** 448 West Fork Drive  
Arlington, TX 76012 USA

**Telephone:** 888-467-4222

#### 1.4. Emergency Telephone Number (24 hr)

CHEMTREC (USA) 800-424-9300  
CHEMTREC (International) 1+ 703-527-3887

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### SECTION 2: Hazard(s) Identification

#### 2.1. Classification of the Substance or Mixture (in accordance with OSHA HCS 29 CFR 1910.1200)

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

| Hazard Class   | Category   | Hazard Statement | Precautionary Statements   |
|--|------------|------------------|--|
| Skin Corrosion / Irritation  | Category 2 | H315             | P264, P280, P302+P352, P321, P332+P313, P362   |
| Eye Damage / Irritation  | Category 1 | H318             | P280, P305+P351+P338, P310   |
| Respiratory Sensitizer   | Category 1 | H334             | P261, P285, P304+P341, P342+P311, P501   |
| Germ Cell Mutagenicity   | Category 1 | H340             | P201, P202, P280, P308+P313, P405, P501  |
| Reproductive Toxicity  | Category 1 | H360             | P201, P202, P280, P308+P313, P405, P501  |
| Specific Target Organs/Systemic Toxicity Following Single Exposure   | Category 1 | H370             | P260, P264, P270, P307+P311, P321, P405, P501  |
| Specific Target Organs/Systemic Toxicity Following Repeated Exposure | Category 1 | H372             | P260, P264, P270, P314, P501   |
| Flammable Liquids  | Category 3 | H226             | P210, P233, P240, P241, P242, P243, P280, P303+P361+P353, P370+P378, P403+P235, P501 |
| Hazardous to the Aquatic Environment (Acute)                         | Category 3 | H402             | P273, P501   |

#### 2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

| Hazard Number | Hazard Statement   |
|---------------|--|
| H226          | Flammable liquid and vapor.  |
| H315          | Causes skin irritation.  |
| H318          | Causes serious eye damage.   |
| H334          | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H340          | May cause genetic defects.   |
| H360          | May damage fertility or the unborn child.                                  |
| H370          | Causes damage to organs.   |
| H372          | Causes damage to organs through prolonged or repeated exposure.            |
| H402          | Harmful to aquatic life.   |

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### Precautionary Statements:

| Precautionary Number | Precautionary Statement  |
|----------------------|--|
| P201                 | Obtain special instructions before use.  |
| P202                 | Do not handle until all safety precautions have been read and understood.  |
| P210                 | Keep away from heat, sparks and open flame. No smoking.  |
| P233                 | Keep container tightly closed.   |
| P240                 | Ground container and receiving equipment.  |
| P241                 | Use explosion-proof equipment.   |
| P242                 | Use only non-sparking tools.   |
| P243                 | Take precautionary measures against static discharge.  |
| P260                 | Do not breathe fumes, mist, vapors, or spray.  |
| P261                 | Avoid breathing fumes, mist, vapors, or spray.   |
| P264                 | Wash arms, hands and face thoroughly after handling.   |
| P270                 | Do not eat, drink or smoke when using this product.  |
| P273                 | Avoid release to the environment.  |
| P280                 | Wear protective gloves and eye protection.   |
| P285                 | In case of inadequate ventilation wear respiratory protection.   |
| P302+P352            | IF ON SKIN: Wash with plenty of soap and water.  |
| P303+P361+P353       | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.                                     |
| P304+P341            | IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.                            |
| P305+P351+P338       | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P307+P311            | IF exposed: Call a POISON CENTER or physician.   |
| P308+P313            | IF exposed or concerned: Get medical attention.  |
| P310                 | Immediately call a POISON CENTER or physician.   |
| P314                 | Get medical attention if you feel unwell.  |
| P321                 | Specific treatment (Wash areas of contact with water).   |
| P332+P313            | If skin irritation occurs: Get medical attention.  |
| P342+P311            | If experiencing respiratory symptoms: Call a POISON CENTER or physician.   |
| P362                 | Take off contaminated clothing and wash it before reuse.   |
| P370+P378            | In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.   |
| P403+P235            | Store in a well-ventilated place. Keep cool.   |
| P405                 | Store locked up.   |
| P501                 | Dispose of contents in accordance with local, state, federal and international regulations.                                      |



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### 2.3. WHMIS Classification

WHMIS classification is not included based on the recommended option (Option 4) found in the Canada Gazette Part II, Vol. 149, No.3, page 458

### 2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

## SECTION 3: Composition / Information on Ingredients

### 3.1. Components of Substance or Mixture

| Chemical Name              | Formula                            | Molecular Weight | CAS Number | Weight% |
|----------------------------|------------------------------------|------------------|------------|---------|
| Water                      | H <sub>2</sub> O                   | 18.01 g/mol      | 7732-18-5  | 85.71%  |
| Ethyl Alcohol              | CH <sub>3</sub> CH <sub>2</sub> OH | 46.06 g/mol      | 64-17-5    | 12.00%  |
| Hydrochloric Acid          | HCl                                | 36.46 g/mol      | 7647-01-0  | 2.00%   |
| Ferric Chloride, Anhydrous | FeCl <sub>3</sub>                  | 162.20 g/mol     | 7705-08-0  | 0.29%   |

## SECTION 4: First-Aid Measures

### 4.1. General First Aid Information

**Eye Contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Inhalation:** IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

**Skin Contact:** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

**Ingestion:** No action required to be taken. If necessary, dilute with water.

### 4.2. Most Important Symptoms and Effects, Acute and Delayed

May cause mild irritation to areas of contact.

### 4.3. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water).

## SECTION 5: Fire-Fighting Measures

### 5.1. Extinguishing Media

In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

### 5.2. Specific Hazards Arising from the Substance or Mixture

Flammable liquid and vapor.



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### 5.3. Special Protective Equipment for Firefighters

Wear protective clothing and NIOSH-approved breathing equipment appropriate for the surrounding fire.

## SECTION 6: Accidental Release Measures

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

### 6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and dispose of in accordance with local regulations.

## SECTION 7: Handling and Storage

### 7.1. Precautions for Safe Handling and Storage Conditions

Store locked up.

## SECTION 8: Exposure Controls / Personal Protection

### 8.1. Control Parameters

| Chemical Name                          | Limit Type  | Country | Exposure Limit                               | Information Source   |
|--|-------------|---------|--|--|
| Ethyl Alcohol (64-17-5)                | TWA         | USA     | 1000 ppm TWA<br>1900 mg/m <sup>3</sup> TWA   | U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)               |
| Ethyl Alcohol (64-17-5)                | TLV-STEL    | USA     | 1000 ppm STEL                                | ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL) |
| Ferric Chloride, Anhydrous (7705-08-0) | TLV-TWA     | USA     | 1 mg/m <sup>3</sup> TWA (as Fe)              | ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)      |
| Hydrochloric Acid (7647-01-0)          | TLV-Ceiling | USA     | 2 ppm Ceiling                                | ACGIH - Threshold Limit Values - Ceilings (TLV-C)                      |
| Hydrochloric Acid (7647-01-0)          | PEL-Ceiling | USA     | 5 ppm Ceiling<br>7 mg/m <sup>3</sup> Ceiling | U.S. - OSHA - Final PELs - Ceiling Limits                              |

### 8.2. Exposure Controls

**Engineering Controls:** No specific controls are needed. Normal room ventilation is adequate.

**Respiratory Protection:** In case of inadequate ventilation wear respiratory protection.

**Skin Protection:** Wear protective gloves and eye protection.

**Eye Protection:** Wear protective gloves and eye protection.

### 8.3. Personal Protective Equipment

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.



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### SECTION 9: Physical and Chemical Properties

#### 9.1. Basic Physical and Chemical Properties

**Appearance:** Data not available.

**Physical State:** Liquid

**Odor:** Data not available.

**Odor Threshold:** Data not available.

**pH:** Data not available.

**Melting/Freezing Point:** Data not available.

**Initial Boiling Point /Range:** Data not available.

**Flash Point:** Data not available.

**Evaporation Rate:** Data not available.

**Flammability:** Data not available.

**Flammability/Explosive Limits:** Data not available.

**Vapor Pressure:** Data not available.

**Vapor Density:** Data not available.

**Relative Density:** 1.00

**Solubility:** Data not available.

**Partition Coefficient (n-Octanol/Water):** Data not available.

**Auto-Ignition Temperature:** Data not available.

**Decomposition Temperature:** Data not available.

**Viscosity:** Data not available.

**Explosive Properties:** Data not available.

**Oxidizing Properties:** Data not available.

### SECTION 10: Stability and Reactivity

#### 10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

#### 10.2. Possibility of Hazardous Reactions

Data not available.

#### 10.3. Conditions to Avoid and Incompatible Materials

Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed.

#### 10.4. Hazardous Decomposition Products

May emit irritating fumes when heated to decomposition.



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### SECTION 11: Toxicological Information

#### 11.1. Information on Toxicological Effects

**Acute Toxicity - Oral Exposure:**

Not applicable.

**Acute Toxicity - Dermal Exposure:**

Not applicable.

**Acute Toxicity - Inhalation Exposure:**

Not applicable.

**Acute Toxicity - Other Information:**

Data not available.

**Skin Corrosion and Irritation:**

Causes skin irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (Wash areas of contact with water). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

**Serious Eye Damage and Irritation:**

Causes serious eye damage. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

**Respiratory Sensitization:**

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Avoid breathing fumes, mist, vapors, or spray. In case of inadequate ventilation wear respiratory protection. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Dispose of contents in accordance with local, state, federal and international regulations.

**Skin Sensitization:**

Not applicable.

**Germ Cell Mutagenicity:**

May cause genetic defects. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

**Carcinogenicity:**

Not applicable.

**Reproductive Toxicity:**

May damage fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.



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### Specific Target Organ Toxicity from Single Exposure:

Causes damage to organs. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

### Specific Target Organ Toxicity from Repeated Exposure:

Causes damage to organs through prolonged or repeated exposure. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

### Aspiration Hazard:

Not applicable.

### Additional Toxicology Information:

Data not available.

## SECTION 12: Ecological Information

### 12.1. Ecotoxicity

Harmful to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

### 12.2. Persistence and Degradability

Data not available.

### 12.3. Bioaccumulative Potential

Data not available.

### 12.4. Mobility in Soil

Data not available.

### 12.5. Other Adverse Ecological Effects

Data not available.

## SECTION 13: Disposal Considerations

### 13.1. Waste Treatment Methods

Data not available.





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### SECTION 14: Transportation Information

#### 14.1. Transportation by Land - Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

Not regulated according to IATA Regulations.

### SECTION 15: Regulatory Information

#### 15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

#### 15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Hydrochloric Acid (CAS # 7647-01-0): 500 lb TPQ (gas only)

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb EPCRA RQ (gas only)

#### 15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb final RQ; 2270 kg final RQ

Ferric Chloride, Anhydrous (CAS # 7705-08-0): 1000 lb final RQ; 454 kg final RQ

#### 15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Hydrochloric Acid (CAS # 7647-01-0): 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)



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### 15.5. Massachusetts Right-to-Know Substance List

Ethyl Alcohol (CAS # 64-17-5): Teratogen  
Hydrochloric Acid (CAS # 7647-01-0): Extraordinarily hazardous  
Ferric Chloride, Anhydrous (CAS # 7705-08-0): Present

### 15.6. Pennsylvania Right-to-Know Hazardous Substances

Ethyl Alcohol (CAS # 64-17-5): Present  
Hydrochloric Acid (CAS # 7647-01-0): Environmental hazard  
Hydrochloric Acid (CAS # 7647-01-0): Present  
Ferric Chloride, Anhydrous (CAS # 7705-08-0): Environmental hazard  
Ferric Chloride, Anhydrous (CAS # 7705-08-0): Present  
Water (CAS # 7732-18-5): Present

### 15.7. New Jersey Worker and Community Right-to-Know Components

Ethyl Alcohol (CAS # 64-17-5): carcinogen; flammable - third degree; mutagen; teratogen  
Ethyl Alcohol (CAS # 64-17-5): sn 0844  
Hydrochloric Acid (CAS # 7647-01-0): corrosive  
Hydrochloric Acid (CAS # 7647-01-0): sn 1012  
Hydrochloric Acid (CAS # 7647-01-0): SN 1012 500 lb TPQ (>=37% concentration); SN 2909 500 lb TPQ (Hydrogen chloride gas only)  
Ferric Chloride, Anhydrous (CAS # 7705-08-0): corrosive  
Ferric Chloride, Anhydrous (CAS # 7705-08-0): sn 1034

### 15.8. California Proposition 65

Ethyl Alcohol (CAS # 64-17-5): carcinogen, 4/29/2011 (in alcoholic beverages)  
Ethyl Alcohol (CAS # 64-17-5): carcinogen, 7/1/1988 (when associated with alcohol abuse)  
Ethyl Alcohol (CAS # 64-17-5): developmental toxicity, 10/1/1987 (in alcoholic beverages)

### 15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Ethyl Alcohol (CAS # 64-17-5): Present (DSL)  
Ethyl Alcohol (CAS # 64-17-5): Present (NDSL)  
Hydrochloric Acid (CAS # 7647-01-0): Present (DSL)  
Ferric Chloride, Anhydrous (CAS # 7705-08-0): Present (DSL)  
Water (CAS # 7732-18-5): Present (DSL)

### 15.10. United States of America Toxic Substances Control Act (TSCA) List

Ethyl Alcohol (CAS # 64-17-5): Present  
Hydrochloric Acid (CAS # 7647-01-0): Present [T]  
Ferric Chloride, Anhydrous (CAS # 7705-08-0): Present  
Water (CAS # 7732-18-5): Present

### 15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP) Not listed.



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### SECTION 16: Other Information

#### 16.1. Full Text of Hazard Statements and Precautionary Statements

Flammable liquid and vapor. Causes skin irritation. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks and open flame. No smoking. Keep container tightly closed. Ground container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water). If skin irritation occurs: Get medical attention. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Take off contaminated clothing and wash it before reuse. In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

Store in a well-ventilated place. Keep cool. Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

#### 16.2. Miscellaneous Hazard Classes

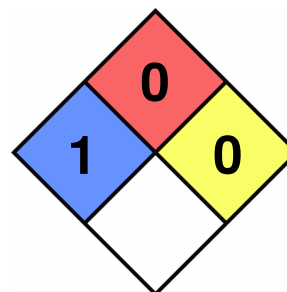
**Canadian Carcinogenicity Hazard Class:** Not Applicable.

**Physical Hazards Not Otherwise Classified (PHNOC):** Not Applicable.

**Health Hazards Not Otherwise Classified (HHNOC):** Not Applicable.  
Not Applicable.

#### 16.3. National Fire Protection Association (NFPA) Rating

**Health:** 1  
**Flammability:** 0  
**Reactivity:** 0  
**Special Hazard:**





## Safety Data Sheet

### 16.4. Document Revision

**Last Revision Date:** 8/30/2016

### DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.