CHEMetrics, Inc.
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After Hours Emergency Nos.: **(703) 447-9550**
(540) 272-3874
Creation Date: **01/10/89 (1044-18)**
Revision Date: **11/29/11**

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAMES: IRON CHEMets® Refill, VACUettes® Refills, and Vacu-vials® Ampoules

CATALOG NOS.: R-6001, R-6001A, R-6001B, R-6001C, R-6001D, K-6003 (ampoules), and K-6013 (ampoules)

DESCRIPTION: Reagent ampoules for the determination of iron in water. (Note: Complete kits contain reagent ampoules and Activator Solution, Catalog No. A-6000. See A-6000 MSDS also).
Each CHEMet™ and VACUette™ ampoule contains approximately 0.5 mL of liquid reagent sealed under vacuum. Each K-6003 Vacu-vial™ ampoule contains approximately 2 mL of liquid reagent sealed under vacuum. Each K-6013 Vacu-vial™ ampoule contains approximately 4.5 mL of liquid reagent sealed under vacuum.

NFPA RATINGS: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

II. HAZARDS IDENTIFICATION

Irritating to eyes and skin.
ACUTE TOXICITY: Irritation, nausea, vomiting, diarrhea, dizziness
CHRONIC TOXICITY: Irritation, methemoglobinemia, cyanosis, liver and kidney damage
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye, skin and respiratory disorders

III. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT: 1,10-Phenanthroline, Monohydrate
CAS NO.: 5144-89-8 PERCENT: < 0.5

COMPONENT: Isopropyl Alcohol
CAS NO.: 67-63-0 PERCENT: < 0.5

COMPONENT: Hydroxylamine Hydrochloride
CAS NO.: 5470-11-1 PERCENT: < 1.0

COMPONENT: Ammonium Hydroxide
CAS NO.: 1336-21-6 PERCENT: 1.5 - 4.0

COMPONENT: Acetic Acid, Glacial
CAS NO.: 64-19-7 PERCENT: 7.0 - 15.0

COMPONENT: Deionized Water
CAS NO.: 7732-18-5 PERCENT: > 79

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes.
INGESTION: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Seek medical attention.
INHALATION: Remove individual to fresh air.

V. FIRE FIGHTING MEASURES

FLASH POINT: N/A AUTOIGNITION POINT: N/A
FLAMMABILITY LIMITS: UPPER: N/A LOWER: N/A
EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, water spray or foam

VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent material. Place in small containers for disposal.

VII. HANDLING AND STORAGE

Always wear eye protection when working with these ampoules.
WARNING: Do not break the tip of the ampoule unless it is completely immersed in your sample. Breaking the tip in the air may cause the glass ampoule to shatter.
If this product is used as directed, the user will not come in contact with or be exposed to any of its chemical components.
Wash thoroughly after handling. Avoid contact with eyes.
Fragile. Liquid in glass. Handle with care.
Exposure of this product to temperatures up to 120°F (49°C) or even below 32°F (0°C) will not create a safety hazard. For optimum analytical accuracy, the product should be stored in the dark and at room temperature, and should not be used beyond expiration date.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

ACGIH TLV: 10 ppm TWA Glacial Acetic Acid, 200 ppm TWA Isopropyl Alcohol, 25 ppm TWA Ammonia
OSHA PEL: 10 ppm TWA Glacial Acetic Acid, 400 ppm TWA Isopropyl Alcohol, 50 ppm TWA Ammonia
PROTECTIVE EQUIPMENT: Impact- and splash-resistant eyewear; Protective gloves compatible with the hazardous reagent constituents identified on this MSDS.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Colorless ODOR: Mild vinegar-like
SOLUBILITY IN WATER: Miscible pH: 4.2 SPECIFIC GRAVITY: 1.0
BOILING POINT: 115°C MELTING POINT: -15°C
VAPOR PRESSURE / VAPOR DENSITY: N/A

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS: ammonia gas, oxides of carbon and nitrogen
Stable under normal conditions.

XI. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: Isopropyl alcohol: IARC - Group 3, not classifiable as to its carcinogenicity to humans. No other data available at this time.

XII. ECOLOGICAL INFORMATION

Hydroxylamine Hydrochloride may be harmful to aquatic organisms. Acetic acid has high BOD which may cause oxygen depletion in aquatic systems and is expected to biodegrade rapidly. Ammonium hydroxide is very toxic to aquatic life.
No other data available at this time.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State, and Local Regulations.

XIV. TRANSPORT INFORMATION

CHEMets® and VACUettes® Refills:
Not regulated

CHEMets®, VACUettes®, and Vacu-vials® Kits contain Activator Solution Catalog No. A-6000 in addition to reagent ampoules. See A-6000 MSDS for Transport Information.

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:
EU Symbols: Xi - IRRITANT
Risk Phrases: Irritating to eyes and skin.
Safety Phrases: Avoid contact with skin and eyes. In case of contact with skin or eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
CANADIAN INFORMATION:
WHMIS Classification: D1B, D2A
All chemical components of this product are listed on Canada's DSL or are exempt.

U.S. INFORMATION:
OSHA: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard (29 CFR 1910.1200).
SARA Section 313: This product contains isopropyl alcohol and ammonium hydroxide which are subject to the reporting requirements of Section 313 of SARA Title III.
All chemical components of this product are listed on the TSCA Inventory.

XVI. OTHER INFORMATION

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. ALL PRODUCTS ARE OFFERED IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCTION SPECIFICATIONS AND ARE INTENDED SOLELY FOR USE IN ANALYTICAL TESTING. THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE RESULTING FROM THE HANDLING, USE OR MISUSE OF THESE PRODUCTS.

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After Hours Emergency Nos.: **(703) 447-9550**
(540) 272-3874
Creation Date: **12/10/85 (1075-15)**
Revision Date: **11/29/11**

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAME: IRON ACTIVATOR SOLUTION

CATALOG NO.: A-6000

DESCRIPTION: An accessory solution used in conjunction with reagent ampoules in the determination of total iron in water. Each bottle contains approximately 9 mL of accessory solution.

NFPA RATINGS: HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 1

II. HAZARDS IDENTIFICATION

Toxic by inhalation, in contact with skin and if swallowed. Very toxic to aquatic organisms. Corrosive. Causes burns.
ACUTE TOXICITY: Irritation, nausea, vomiting
CHRONIC TOXICITY: Irritation, dermatitis
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye and respiratory disorders

III. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT: Deionized Water
CAS NO.: 7732-18-5 PERCENT: > 9.0

COMPONENT: Ammonium Hydroxide
CAS NO.: 1336-21-6 PERCENT: 22.0 - 24.0

COMPONENT: Thioglycolic Acid
CAS NO.: 68-11-1 PERCENT: 64.0 - 67.0

IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes.
INGESTION: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Seek medical attention immediately.
INHALATION: Remove individual to fresh air. If necessary, provide artificial respiration by mechanical means, do not use mouth to mouth resuscitation. Seek medical advice.

V. FIRE FIGHTING MEASURES

FLASH POINT: 125°C (closed cup) AUTOIGNITION POINT: 350°C
FLAMMABILITY LIMITS: UPPER: Unknown LOWER: None to 5.9%
EXTINGUISHING MEDIA: Water, dry chemical, carbon dioxide or foam

VI. ACCIDENTAL RELEASE MEASURES

Take up with absorbent material. Place in small containers for disposal. Ventilate spill area.

VII. HANDLING AND STORAGE

If this product is used as directed, the user will not come in contact with or be exposed to any of its chemical components.
Wash thoroughly after handling. Avoid contact with eyes.
Exposure of this product to temperatures up to 120°F (49°C) or even below 32°F (0°C) will not create a safety hazard. For optimum analytical accuracy, the product should be stored in the dark and at room temperature, and should not be used beyond expiration date.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

ACGIH TLV: 1 ppm TWA Thioglycolic Acid (skin), 25 ppm TWA Ammonia
OSHA PEL: 50 ppm TWA Ammonia
PROTECTIVE EQUIPMENT: Impact- and splash-resistant eyewear; Protective gloves compatible with the hazardous reagent constituents identified on this MSDS.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Colorless
ODOR: Strong, unpleasant SPECIFIC GRAVITY: 1.2
SOLUBILITY IN WATER: Miscible pH: 4 - 5
BOILING POINT: 96°C MELTING POINT: -16.5°C
VAPOR PRESSURE / VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: Oxidizing materials, metals, strong acids, strong bases
HAZARDOUS DECOMPOSITION PRODUCTS: ammonia gas, hydro-gen sulfide, oxides of sulfur, nitrogen, and carbon
Stable under normal conditions.

XI. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: None
No other data available at this time.

XII. ECOLOGICAL INFORMATION

Not expected to bioaccumulate. Ammonium hydroxide is very toxic to aquatic life.
No other data available at this time.

XIII. DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with Federal, State, and Local Regulations.

XIV. TRANSPORT INFORMATION

U.S. DOT, IATA, and IMDG: Dangerous Goods in Excepted Quantities
Hazard Class: 8 UN No.: 1760 Packing Group: II

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:
EU Symbols: T - TOXIC, C - CORROSIVE, N - DANGEROUS FOR THE ENVIRONMENT
Risk Phrases: Causes burns. Toxic by inhalation, in contact with skin and if swallowed. Very toxic to aquatic organisms.
Safety Phrases: Avoid contact with skin and eyes. Wear suitable protective clothing, gloves, and eye/face protection. In case of contact with skin or eyes, rinse immediately with plenty of water and seek medical advice. If swallowed, seek medical advice immediately and show container or label. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment.

CANADIAN INFORMATION:
WHMIS Classification: D1A, D1B, E
All chemical components of this product are listed on Canada's DSL.

U.S. INFORMATION:
OSHA: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard (29 CFR 1910.1200).
SARA Section 313: This product contains ammonium hydroxide which is subject to the reporting requirements of Section 313 of SARA Title III.
All chemical components of this product are listed on the TSCA Inventory.

XVI. OTHER INFORMATION