

**CHEMetrics, Inc.**  
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**(800) 356-3072 (540) 788-9026**  
**Fax (540) 788-4856 E-mail technical@chemetrics.com**

**After Hours Emergency Nos.: (703) 447-9550**  
**(540) 272-3874**  
**Creation Date: 01/30/87 (1235-15)**  
**Revision Date: 10/30/09**

## MATERIAL SAFETY DATA SHEET

### I. CHEMICAL IDENTIFICATION

TRADE NAMES: MANGANESE CHEMets® and VACUettes®

CATALOG NOS.: R-6502 and R-6502D

DESCRIPTION: Reagent ampoules for the determination of manganese in water. Each CHEMet™ and VACUette™ contains approximately 0.5 mL of liquid reagent sealed under vacuum.

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

### II. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT: Sodium Periodate  
 CAS NO.: 7790-28-5 PERCENT: < 4.5

COMPONENT: Deionized Water  
 CAS NO.: 7732-18-5 PERCENT: >95.5

### III. HAZARDS IDENTIFICATION

ACUTE TOXICITY: Irritation  
 CHRONIC TOXICITY: Irritation, dermatitis  
 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: No data available.

### 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 advice.  
 INHALATION: Remove individual to fresh air.

### V. FIRE FIGHTING MEASURES

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

### 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, if applicable, should not be used beyond expiration date.

### VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA PEL & ACGIH TLV: None established  
 PROTECTIVE EQUIPMENT: Safety glasses

### IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Colorless ODOR: None  
 SOLUBILITY IN WATER: Complete pH: 4.3  
 BOILING POINT: 104°C MELTING POINT: 2°C  
 VAPOR PRESSURE: N/A SPECIFIC GRAVITY: 1.02  
 VAPOR DENSITY: N/A

### X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: strong reducing agents, metals  
 HAZARDOUS DECOMPOSITION PRODUCTS: hydrogen iodide, iodine, sodium oxide  
 Stable under normal conditions.

### XI. TOXICOLOGICAL INFORMATION

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

### XII. ECOLOGICAL INFORMATION

No data available.

### XIII. DISPOSAL CONSIDERATIONS

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

### XIV. TRANSPORT INFORMATION

Not regulated.

### XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:  
 EU Symbols: None  
 Risk/Safety Phrases: None

CANADIAN INFORMATION:  
 WHMIS Classification: Uncontrolled  
 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).  
 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.

*CHEMets® and VACUettes® are registered trademarks of CHEMetrics, Inc.*

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**Creation Date: 06/27/86 (1236-15)**  
**Revision Date: 10/30/09**

## MATERIAL SAFETY DATA SHEET

### I. CHEMICAL IDENTIFICATION

TRADE NAME: MANGANESE ACTIVATOR SOLUTION

CATALOG NO.: A-6500

DESCRIPTION: An accessory solution used in conjunction with reagent ampoules in the determination of manganese in water. Each bottle contains approximately 18 mL of accessory solution.

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

### II. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT: Citric Acid, Monohydrate  
CAS NO.: 5949-29-1 PERCENT: < 2.5

COMPONENT: Sodium Sulfate  
CAS NO.: 7757-82-6 PERCENT: 3.0

COMPONENT: Sodium Phosphate Dibasic  
CAS NO.: 7558-79-4 PERCENT: 5.0

COMPONENT: Deionized Water  
CAS NO.: 7732-18-5 PERCENT: >89.5

### III. HAZARDS IDENTIFICATION

ACUTE TOXICITY: Irritation  
CHRONIC TOXICITY: Irritation  
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: No data available.

### IV. FIRST AID MEASURES

EYE AND SKIN CONTACT: Immediately flush eyes and skin with water for 15 minutes.

INGESTION: Do not induce vomiting. 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 advice.

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, water spray or foam

### VI. ACCIDENTAL RELEASE MEASURES

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

### 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, if applicable, should not be used beyond expiration date.

### VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA & ACGIH THRESHOLD LIMIT VALUE: None established  
PROTECTIVE EQUIPMENT: Safety glasses

### IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Colorless ODOR: None  
SOLUBILITY IN WATER: Miscible pH: 5.6  
BOILING POINT: 107°C MELTING POINT: 5°C  
VAPOR PRESSURE: Not determined SPECIFIC GRAVITY: 1.05  
VAPOR DENSITY: Not determined

### X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: strong oxidizing agents, strong bases  
HAZARDOUS DECOMPOSITION PRODUCTS: oxides of carbon, sulfur, sodium and phosphorus  
Stable under normal conditions.

### XI. TOXICOLOGICAL INFORMATION

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

### XII. ECOLOGICAL INFORMATION

Citric acid can cause nitrification inhibition. Sodium sulfate may persist indefinitely but diluted, it is not expected to have a significant impact on the environment.

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

Not regulated.

### XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:  
EU Symbols: None  
Risk Phrases: None  
Safety Phrases: Avoid contact with eyes.

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

U.S. INFORMATION:  
All chemical components of this product are listed on the TSCA Inventory.

### XVI. OTHER INFORMATION

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**Creation Date: 12/08/08 (2984-6)**  
**Revision Date: 09/14/11**

## MATERIAL SAFETY DATA SHEET

### I. CHEMICAL IDENTIFICATION

TRADE NAME: COLOR COMPARATOR

CATALOG NOS.:

C-1805, C-1805E, C-2810, C-2810A, C-2810B, C-2810C, C-2810D,  
 C-3810, C-3901, C-3902, C-4601, C-4601A, C-4601B, C-4601C,  
 C-4601D, C-4605, C-4605A, C-4605B, C-4605C, C-4605D, C-4815,  
 C-4815C, C-6502, C-6502D, C-7501, C-7501L, C-7511, C-7518, C-7540,  
 C-7599, C-9011

DESCRIPTION: Color standard ampoules used to quantify test results for the determination of various analytes in water. Each CHEMet™ and VACUette™ comparator ampoule contains approximately 1.7 mL of liquid reagent. Each ULR CHEMet™ comparator ampoule contains approximately 6.7 mL of liquid reagent.

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

### II. HAZARDS IDENTIFICATION

Harmful if swallowed.

ACUTE TOXICITY: Irritation, nausea, diarrhea, nerve depression

CHRONIC TOXICITY: Irritation, liver or kidney lesions

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye, skin, liver or kidney disorders

### III. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT: Diethylene Glycol  
 CAS NO.: 111-46-6 PERCENT: ≤ 25.0

COMPONENT: Deionized Water  
 CAS NO.: 7732-18-5 PERCENT: > 74

COMPONENT: Other components  
 CAS NO.: N/A PERCENT: < 1.0

Any component of this mixture not specifically listed (e.g. "other components") is not considered to present a carcinogen hazard.

### 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 advice.

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.**

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, these products should be stored in the dark and at room temperature and should not be used beyond expiration date.

### VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA PEL & ACGIH TLV: None established

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: Various colors ODOR: None

SOLUBILITY IN WATER: Miscible pH RANGE: 2.5 - 11.5

BOILING POINT: ≥ 100°C MELTING POINT: ≤ 0°C

VAPOR PRESSURE: N/A SPECIFIC GRAVITY: 1.0

VAPOR DENSITY: N/A

### X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: acids, bases

HAZARDOUS DECOMPOSITION PRODUCTS: oxides of carbon

Stable under normal conditions.

### XI. TOXICOLOGICAL INFORMATION

CARCINOGEN STATUS: None

No other data available at this time.

### XII. ECOLOGICAL INFORMATION

Diethylene glycol has a low bioconcentration potential and is practically non-toxic to aquatic organisms.

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

Not regulated.

### XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

EU Symbols: Xn - HARMFUL

Risk Phrases: Harmful if swallowed.

Safety Phrases: If swallowed, seek medical advice immediately and show container or label.

CANADIAN INFORMATION:

WHMIS Classification: D2A

All chemical components of this product are listed on Canada's DSL.

U.S. INFORMATION:

All chemical components of this product are listed on the TSCA Inventory.

### XVI. OTHER INFORMATION

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