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After Hours Emergency Nos.: (703) 447-9550
(540) 272-3874
Creation Date: 01/12/87 (1442-19)
Revision Date: 03/08/11

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAMES: CHLORINE CHEMets®, ULR CHEMets® and VACUettes®

CATALOG NOS.: R-2505, R-2505A, R-2505B, R-2505C, R-2505D, R-2505V and R-2511

DESCRIPTION: Reagent ampoules for the determination of chlorine in water. Each CHEMet™ and VACUette™ ampoule contains approximately 0.5 mL of liquid reagent sealed under vacuum. Each ULR CHEMet™ ampoule contains approximately 1 mL of liquid reagent sealed under vacuum.

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

II. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT: Formaldehyde Solution, 37%
 CAS NO.: 50-00-0 PERCENT: 0.2

COMPONENT: Potassium Phosphate Monobasic
 CAS NO.: 7778-77-0 PERCENT: < 2.5

COMPONENT: Methanol
 CAS NO.: 67-56-1 PERCENT: < 3.5

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: >93.0

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.

III. HAZARDS IDENTIFICATION

ACUTE TOXICITY: Irritation, cough, blindness, weakness, nausea, vomiting, convulsions.

CHRONIC TOXICITY: Irritation, dermatitis, CNS effects causing headaches or impaired vision

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: skin or respiratory disorders

IV. FIRST AID MEASURES

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

INGESTION: Induce vomiting if instructed by medical personnel. 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. If not breathing give artificial respiration (do not use mouth to mouth resuscitation), if breathing is difficult, administer oxygen and seek medical advice.

V. FIRE FIGHTING MEASURES

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

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. Fragile. Liquid in glass. Handle with care.

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

OSHA PEL: 0.75 ppm Formaldehyde TWA, 200 ppm Methanol TWA
 ACGIH TLV: 0.3 ppm C Formaldehyde, 200ppm Methanol TWA
 PROTECTIVE EQUIPMENT: Impact- and splash-resistant eyewear; Protective gloves compatible with the hazardous reagent constituents identified on this MSDS.
 OTHER CONTROL MEASURES: See OSHA Standard 29 CFR 1910.1048 for control measures related to formaldehyde exposure.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Colorless ODOR: None
 SOLUBILITY IN WATER: Complete pH: 4 SPECIFIC GRAVITY: 1
 BOILING POINT: 95°C MELTING POINT: 0°C
 VAPOR PRESSURE: N/A VAPOR DENSITY: N/A

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: strong acids
 HAZARDOUS DECOMPOSITION PRODUCTS: toxic fumes, oxides of carbon
 Stable under normal conditions.

XI. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: Formaldehyde: IARC - Group 1, carcinogenic to humans. Formaldehyde gas: ACGIH - Group A2, suspected human carcinogen; NTP - reasonably anticipated to be a human carcinogen; California Proposition 65 - carcinogen. No other data available at this time.

XII. ECOLOGICAL INFORMATION

Methanol, in high concentrations, is dangerous to aquatic life and is expected to biodegrade rapidly. 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 by inhalation, in contact with skin and if swallowed. Harmful: Possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrases: Wear suitable protective clothing, gloves, and eye/face protection. 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).

CANADIAN INFORMATION:

WHMIS Classification: D1A, D2A, D1B, D2B

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: This product contains methanol and formaldehyde solution 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.

CALIFORNIA PROPOSITION 65: This product contains a chemical known to the State of California as a carcinogen.

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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Revision Date: 08/27/10

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAME: CHLORINE & HYDROGEN PEROXIDE ACTIVATOR SOLUTION

CATALOG NOS.: A-2500 and A-2500V

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

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

II. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT: Potassium Iodide
 CAS NO.: 7681-11-0 PERCENT: <15.0

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: >85.0

III. HAZARDS IDENTIFICATION

ACUTE TOXICITY: Irritation, nausea, diarrhea

CHRONIC TOXICITY: Irritation, iodism

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pregnancy- Chronic ingestion during pregnancy can cause fetal harm or death.

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, 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

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

OSHA PEL & ACGIH TLV: None established

PROTECTIVE EQUIPMENT: Impact- and splash-resistant eyewear;
 Protective gloves compatible with the hazardous reagent constituents on this MSDS.

IX. PHYSICAL AND CHEMICAL PROPERTIES

STATE: Liquid APPEARANCE: Colorless ODOR: None

SOLUBILITY IN WATER: Miscible pH: 11

BOILING POINT: 100°C MELTING POINT: < 0°C

VAPOR PRESSURE: Not determined SPECIFIC GRAVITY: > 1

VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: strong acids, strong bases, strong reducing agents

HAZARDOUS DECOMPOSITION PRODUCTS: oxides of potassium and iodine

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: 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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MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAME: CHLORINE NEUTRALIZER SOLUTION

CATALOG NOS.: A-2501, A-2501H and A-2501V

DESCRIPTION: An accessory solution used in conjunction with reagent ampoules in the determination of chlorine 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: Sodium Hydroxide
 CAS NO.: 1310-73-2 PERCENT: < 5.0

COMPONENT: Sodium Metaphosphate
 CAS NO.: 10124-56-8 PERCENT: <10.0

COMPONENT: Potassium Phosphate Monobasic
 CAS NO.: 7778-77-0 PERCENT: <20.0

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: >65.0

III. HAZARDS IDENTIFICATION

ACUTE TOXICITY: Irritation

CHRONIC TOXICITY: Irritation, kidney effects

MEDICAL CONDITION AGGRAVATED BY EXPOSURE: Impaired kidney function

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, 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

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 product components should not be used beyond expiration date.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA PEL: 2 mg/m³ TWA Sodium Hydroxide

ACGIH TLV: 2 mg/m³ C Sodium Hydroxide

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: None

SOLUBILITY IN WATER: Miscible pH: 7.7

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

VAPOR PRESSURE: Not determined SPECIFIC GRAVITY: 1

VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: metals

HAZARDOUS DECOMPOSITION PRODUCTS: oxides of phosphorous and sodium

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: Xi - IRRITANT

Risk Phrases: Irritating to eyes and skin.

Safety Phrases: Avoid contact with skin and eyes.

CANADIAN INFORMATION:

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

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MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAME: COLOR COMPARATOR

CATALOG NOS.: C-1602, C-2501, C-2501A, C-2501B, C-2501C, C-2501D, 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-5504, C-6502, C-6502D, C-7401, C-7501, C-7501L, C-7511, C-7518, C-7540, C-7599, C-7901, 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. COMPOSITION / INFORMATION ON INGREDIENTS

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

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: > 70

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.

III. 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

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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