

CHEMetrics, Inc.
4295 Catlett Rd., Calverton, VA 20138
(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: 03/03/89 (1134-18)
Revision Date: 11/29/11

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAME: CARBON DIOXIDE Titrets® & Activator and Neutralizer Solutions

KIT CATALOG NOS.: K-1910, K-1920 and K-1925
 ACTIVATOR SOLUTION CATALOG NO.: A-1900
 NEUTRALIZER SOLUTION CATALOG NOS.: A-1905, A-1910 and A-1925

DESCRIPTION: Reagent ampoules and accessory solutions for the titrimetric determination of carbon dioxide in water. Each Titret™ ampoule contains approximately 1.1 mL of liquid reagent sealed under vacuum. The bottles of activator and neutralizer solution each contain approximately 9 mL of accessory solution.

In the Ampoule:

NFPA RATINGS: HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0

In the Activator Solution:

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

In the Neutralizer Solutions:

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

II. HAZARDS IDENTIFICATION

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Possible risk of irreversible effects through inhalation, in contact with skin and if swallowed. Irritating to eyes.

ACUTE TOXICITY: Irritation, conjunctivitis, cyanosis, blindness, systemic toxicity, abdominal pain, headache, nausea, CNS depression, tooth erosion

CHRONIC TOXICITY: Irritation, liver and kidney damage, tooth erosion

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

III. COMPOSITION / INFORMATION ON INGREDIENTS

In the Ampoule:

COMPONENT: Sodium Hydroxide
 CAS NO.: 1310-73-2 PERCENT: < 0.2

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: > 99

COMPONENT: Other components
 CAS NO.: N/A PERCENT: < 0.1

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

In the Activator Solution:

COMPONENT: Phenolphthalein
 CAS NO.: 77-09-8 PERCENT: 1.0 - 2.0

COMPONENT: Methanol
 CAS NO.: 67-56-1 PERCENT: 2.0 - 3.0

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: > 40

COMPONENT: Ethyl Alcohol, Denatured
 CAS NO.: 64-17-5 PERCENT: 50.0 - 55.0

In the Neutralizer Solutions:

COMPONENT: Hydrochloric Acid, Concentrated
 CAS NO.: 7647-01-0 PERCENT: < 3.5

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: > 96.5

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. If A-1900 solution has been ingested, induce vomiting by giving one teaspoon of syrup of ipecac. Seek medical advice immediately.

INHALATION: Remove to fresh air. If necessary, give artificial respiration by mechanical means, do not use mouth to mouth resuscitation, seek medical advice.

V. FIRE FIGHTING MEASURES

FLASH POINT: 14°C, closed cup (Ethyl Alcohol, Denatured)

AUTOIGNITION POINT: N/A (Ethyl Alcohol, Denatured)

FLAMMABILITY LIMITS (Ethyl Alcohol, Denatured):

UPPER: 19% LOWER: 4.3%

EXTINGUISHING MEDIA: Water, dry chemical, foam 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: Breaking the ampoule tip in air when the valve assembly is not attached 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 product components should not be used beyond expiration date.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA PEL & ACGIH TLV: 1000 ppm TWA ethyl alcohol, 200 ppm TWA methanol, 2mg/m³ C sodium hydroxide

OSHA PEL: 5 ppm C, ACGIH TLV: 2 ppm C hydrochloric acid

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

IX. PHYSICAL AND CHEMICAL PROPERTIES

In the Ampoule:

STATE: Liquid APPEARANCE: colorless

ODOR: None SOLUBILITY IN WATER: Complete

pH: 11-12 SPECIFIC GRAVITY: 1.0

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

VAPOR PRESSURE: N/A VAPOR DENSITY: N/A

In the Activator Solution:

STATE: Liquid APPEARANCE: Colorless

ODOR: Ethanol-like SOLUBILITY IN WATER: Miscible

pH: 6.5 SPECIFIC GRAVITY: 0.88

BOILING POINT: 88°C MELTING POINT: -68°C

VAPOR PRESSURE: Not determined VAPOR DENSITY: Not determined

In the Neutralizer Solutions:

STATE: Liquid APPEARANCE: Colorless ODOR: None

SOLUBILITY IN WATER: Complete SPECIFIC GRAVITY: 1.0

pH: A-1905: 2.3, A-1910: 1.4, A-1925: 1.0

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

VAPOR PRESSURE: 14 mm Hg @ 20°C VAPOR DENSITY: 0.7

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: strong oxidizers, strong reducers

HAZARDOUS DECOMPOSITION PRODUCTS: hydrogen chloride, hydrogen gas, chlorine gas, formaldehyde, oxides of carbon and sodium

Stable under normal conditions.

CHEMetrics, Inc.
4295 Catlett Rd., Calverton, VA 20138
(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: 03/03/89 (1134-18)
Revision Date: 11/29/11

XI. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS:

Hydrochloric acid: IARC - Group 3, not classifiable as to its carcinogenicity to humans
ethyl alcohol: ACGIH - Group A4, not classifiable as a human carcinogen
phenolphthalein: IARC - Group 2B, possibly carcinogenic to humans; NTP - reasonably anticipated to be a human carcinogen; California Proposition 65 - carcinogen
No other data available at this time.

XII. ECOLOGICAL INFORMATION

Hydrochloric acid hydrolyzes when exposed to water, will neutralize soil carbonate-based components, and evaporates from soil. Ethyl alcohol is expected to volatilize and biodegrade. Methanol is dangerous to aquatic life in high concentrations and is expected to biodegrade rapidly in soil and water. 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: 9 UN No.: 3316 Packing Group: II

XV. REGULATORY INFORMATION

EUROPEAN INFORMATION:

EU Symbols: F - FLAMMABLE, Xn - HARMFUL, Xi - IRRITANT
Risk Phrases: Highly flammable. Harmful by inhalation, in contact with skin, and if swallowed. Possible risk of irreversible effects through inhalation, in contact with skin, and if swallowed. Irritating to eyes.
Safety Phrases: Avoid contact with skin and eyes. Wear suitable gloves and eye/face protection. 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). Keep container in a well ventilated place. Keep away from sources of ignition - No smoking. If swallowed, seek medical advice immediately and show container or label.

CANADIAN INFORMATION:

WHMIS Classification: B2, D1B, D2A, D2B, E
All chemical components of this product are listed on Canada's DSL.

U.S. INFORMATION:

RCRA: Contains RCRA regulated substances. EPA Waste ID Nos.: Activator Solution: D001; Neutralizer Solutions, A-1910 and A-1925: D002
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 methanol and phenolphthalein which are subject to the reporting requirements of Section 313 of SARA Title III.
CALIFORNIA PROPOSITION 65: This product contains a chemical known to the State of California as a carcinogen.
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.

Titrets® is a registered trademark of CHEMetrics, Inc.