

WTW GmbH
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WTW Inc.
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Creation Date: 06/13/05 (2946F-1)
Revision Date:

FOR CHEMICAL EMERGENCY
Spill Leak Fire Exposure or Accident
Call CHEMTREC Day or Night
DOMESTIC NORTH AMERICA: 800-424-9300
INTERNATIONAL: 703-527-3887 (collect calls accepted)

MATERIAL SAFETY DATA SHEET

I. CHEMICAL IDENTIFICATION

TRADE NAMES: IRON, TOTAL AND SOLUBLE, Ampoules and Activator Solution

MODEL NO.: Fe-4 CV

DESCRIPTION: Reagent ampoules and accessory solution for the determination of iron in water. Each ampoule contains approximately 4.5 mL of liquid reagent sealed under vacuum. The bottle of activator solution contains approximately 10 mL of accessory solution.

In the Ampoules:

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

In the Activator Solution:

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

II. COMPOSITION/INFORMATION ON INGREDIENTS

In the Ampoules:

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: 0.5

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

COMPONENT: Acetic Acid, Glacial
 CAS NO.: 64-19-7 PERCENT: 14.0

COMPONENT: Deionized Water
 CAS NO.: 7732-18-5 PERCENT: >80.0

In the Activator Solution:

COMPONENT: Ammonium Hydroxide
 CAS NO.: 1336-21-6 PERCENT: <35.0

COMPONENT: Thioglycolic Acid
 CAS NO.: 68-11-1 PERCENT: >65.0

III. HAZARDS IDENTIFICATION

Toxic! Corrosive! Causes burns.

ACUTE TOXICITY: Irritation, nausea, vomiting, diarrhea, dizziness

CHRONIC TOXICITY: Irritation, dermatitis, sensitization,

methemoglobinemia, cyanosis, liver and kidney damage

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye, skin and respiratory 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 attention.

INHALATION: Remove individual to fresh air.

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.

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.

Product should be stored in the dark and at room temperature; however, temperatures up to 120 °F or even below freezing will not normally effect reagent performance.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

ACGIH TLV: 10 ppm TWA Glacial Acetic Acid, 200 ppm TWA Isopropyl Alcohol, 25 ppm TWA Ammonia, 1 ppm TWA Thioglycolic Acid (skin)

OSHA PEL: 10 ppm TWA Glacial Acetic Acid, 400 ppm TWA Isopropyl Alcohol, 50 ppm TWA Ammonia

PROTECTIVE EQUIPMENT: Safety glasses, protective gloves

IX. PHYSICAL AND CHEMICAL PROPERTIES

In the Ampoules:

STATE: Liquid APPEARANCE: Colorless ODOR: Mild vinegar-like

SOLUBILITY IN WATER: Miscible pH: 4.2

BOILING POINT: 115 °C MELTING POINT: -15 °C

VAPOR PRESSURE: N/A SPECIFIC GRAVITY: 1.3

VAPOR DENSITY: N/A

In the Activator Solution:

STATE: Liquid APPEARANCE: Colorless ODOR: Strong, unpleasant

SOLUBILITY IN WATER: Miscible pH: 4 - 5

BOILING POINT: 96 °C MELTING POINT: -16.5 °C

VAPOR PRESSURE: Not determined SPECIFIC GRAVITY: 1.2

VAPOR DENSITY: Not determined

X. STABILITY AND REACTIVITY

INCOMPATIBILITIES: Oxidizing materials, metals, strong acids or bases
 HAZARDOUS DECOMPOSITION PRODUCTS: When heated to decomposition, hydrogen sulfide, ammonia and oxides of carbon, nitrogen, and sulfur may be emitted.

Stable under normal conditions.

XI. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: IARC Isopropyl alcohol is a Group 3 Carcinogen
 No other data available at this time.

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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

U.S. DOT: 49 CFR, 173.4 Exceptions for Small Quantities

IATA: Dangerous Goods in Excepted Quantities

Hazard Class: 8 ID: UN 1760 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 or 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 and seek medical advice. 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, D2A, E

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

U.S. INFORMATION:

This product contains ammonia and isopropyl alcohol which are subject to SARA Section 313 reporting requirements.

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.