



Serving Scientific Community  
Since 1985



**TECHNO PHARMCHEM**

An ISO 9001 : 2008 Certified Company

Registered Off. : 101-A, Deep Enclave, Pocket 'D', Ashok Vihar, Phase-III, Delhi-110 052 (India)  
Corporate Off. : 152, Vardhman City Centre, Near Shakti Nagar Underbridge, Delhi-110052 (India)  
Works : Plot No.1022, Modern Industrial Estate, Bahadurgarh-124507, Haryana (India)  
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## MILLON'S SOLUTION

### 1. Product Identification

Synonyms: Millon's Protein Test Solution

Product code: 22085

CAS Number : Not applicable to mixtures

Usage: For Laboratory analysis, research and educational purposes

### 2. Composition/Information on Ingredients

CAS #	Name	% by Weight
Not Applicable	Millon's Solution	100

### 3. Hazards Identification

#### Potential Health Effects

**Eye:** May cause eye irritation. Exposure to mercury or mercury compounds can cause discoloration on the front surface of the lens, which does not interfere with vision.

**Skin:** May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Skin absorption is slight. May cause severe irritation and possible burns

**Ingestion:** Harmful if swallowed. May cause severe and permanent damage to the digestive tract

May cause muscle tremor and impaired motor function. Causes severe pain, nausea, vomiting, diarrhea, and shock.

**Inhalation:** May cause gastrointestinal effects including gum and mouth inflammation, jaw necrosis, and loosening of the teeth. May cause effects similar to those described for ingestion. May cause lung damage

**Chronic:** Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

### 4. First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

**Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes.

**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. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

### 5. Fire Fighting Measures

**Fire:** Not considered to be a fire hazard.

**Explosion:** Not considered an explosion hazard

**Extinguishing Media:** Use alcohol foam, carbon dioxide, or water spray

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower :** Not available.

**Upper:** Not available.

The information contained herein is in good faith but makes no representations as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. We do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.



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## 6. Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways.

Clean up spills immediately, observing precautions in the Protective Equipment section.

## 7. Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Keep from contact with clothing and other combustible materials. Discard contaminated shoes.

Storage: Store in a cool, dry place. Store in a tightly closed container

## 8. Exposure Controls/Personal Protection

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## 9. Physical and Chemical Properties

Physical State: Liquid

Appearance: clear colorless to yellow

Odor: Odorless.

pH: Not available.

Vapor Pressure: 14 mm Hg

Vapor Density: 0.7

Evaporation Rate: >1

Viscosity: Not available.

Boiling Point: 100 deg C

Freezing/Melting Point: 0 deg C

Decomposition Temperature: Not available.

Solubility: Soluble in water.

Specific Gravity/Density: 1.0

Molecular Weight: Not available.



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## 10. Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials.

Incompatibilities with Other Materials: Metals, combustible materials, phosphorous, hypophosphites, formates, alkalies, sulfites, red hot carbon, reducing agents.

Hazardous Decomposition Products: Nitrogen oxides (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>), nitrogen,

mercury/mercury oxides. Hazardous Polymerization: Will not occur.

## 11. Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact Inhalation Ingestion.

Chronic Effects on Humans: May cause damage to the following organs: kidneys, liver, bladder, gastrointestinal tract, skin.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Carcinogenicity:

CAS# 7732-18-5: Not listed by ACGIH, IARC

CAS# 10415-75-5: Not listed by ACGIH, IARC

## 12. Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

## 13. Disposal Considerations

Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Proper Shipping Name: Millon's Solution

Hazard Class: 6.1(8)

UN/NA: UN2922

Packing Group: II

Information reported for product/size: 1L

## 15. Regulatory Information

Safety, health and environmental : Ensure all national/local regulations are observed. regulations/legislation specific for the substance or mixture

Chemical Safety Assessment : It has not been carried out.

## 16. Other Information

Product Use:

Laboratory Reagent.