MATERIAL SAFETY DATA SHEET

Mono-Test

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SECTION I - IDENTITY

Product Class: Diagnostic test kit.

Description: Rapid hemagglutination slide test for the qualitative detection and quantitative determination of infectious mononucleosis heterophile antibodies in serum or plasma.

Product Code: 25D4 (40 tests), 25D6 (100 tests).

Hazardous Ingredients: 1. human source material (contained in positive and negative controls). 2. sodium azide (as a preservative in reagent and controls). CAS #: 26628-22-8 Content: 0.1% (each unit)

SECTION II PHYSICAL/CHEMICAL CHARACTERISTICS

Chemical Characteristics: Not applicable. This kit contains biological material.

Appearance: Test kit consisting of three reagents, calibrated (.05ml) capillary tubes and bulbs, glass slide, and disposable card slides.

SECTION III FIRE AND EXPLOSION HAZARD DATA

Condition: No fire or explosion hazards. Packaging material will burn in a fire.

Extinguishing Media: Use standard fire fighting procedures depending on the source of the surrounding fire.

SECTION IV - REACTIVITY DATA

Incompatibilities: If disposed down a drain, the sodium azide in this kit may react with lead and copper plumbing to form highly explosive metal azides.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Not applicable.

Hazardous Decomposition or Byproducts: This product is stable. If involved in a fire, poisonous gas may be produced by the packaging materials.

SECTION V TOXICOLOGY/HEALTH EFFECTS

WARNING - POTENTIAL BIOHAZARDOUS MATERIAL Each donor unit used in the preparation of the positive and negative controls was tested by an FDA approved method for the presence of the antibody to HIV as well as for hepatitis B surface antigen and found to be negative.

Because no test method can offer complete assurance that HIV, hepatitis B virus or other infectious agents are absent, this product should be handled at the Biosafety Level 2 as recommended for any potentially infectious human specimen in the Centers for Disease Control/National Institutes of Health manual "Biosafety in Microbiological and Biomedical Laboratories".

SECTION VI FIRST AID

Route of Entry: Accidental ingestion is possible.

Medical Conditions Generally Aggravated by Exposure: As with all biological products, hypersensitivity is possible. If hypersensitivity occurs, limit exposure.

Emergency and First Aid Procedures:

- For ingestion, seek immediate medical attention.
- For eye contact, flush with plenty of water and seek medical attention.
- For skin contact, wash with soap and water.

SECTION VII PRECAUTIONS FOR SAFE HANDLING

General: Read the package insert. Always follow good laboratory practices when using this product. Handle all controls and test specimens as if capable of transmitting disease. Employee exposure to human source material is regulated under the Code of Federal Regulations 29 CFR 1910.1030.

Steps to Be Taken in Case Material is Spilled: Decontaminate spill with a bleach solution or appropriate germicide prior to pick up. If material is spilled down drain, flush with a large volume of water to prevent azide buildup in copper or lead plumbing. Decontamination procedures are available on request.

Waste Disposal Method: Place material in a sealed container and dispose of as medical/infectious waste in accordance with applicable environmental regulations.

SECTION VIII - CONTROL MEASURES

Personal Protective Equipment: Barrier gloves, eye protection, and laboratory coat may be required as laboratory conditions indicate.

Ventilation: A biosafety cabinet, as recommended in the CDC/NIH manual, may be necessary if there is a possibility of aerosolization during handling of controls or test specimens.

The decontamination of plumbing systems containing copper or its alloys (e.g., brass) should include a supplemental treatment with nitrous acid, since the sodium hydroxide procedure may not adequately remove accumulations of copper azides. The following nitrous acid decontamination procedure⁴ has been employed with success:

- 1. Close the exit of the drain beyond the point of potential azide accumulation.
- 2. Fill the drain line with nitrous acid, prepared immediately before use by mixing equal volumes of a 20% solution of acetic acid with a 20% solution of sodium nitrite.

CAUTION: The area should be well ventilated, as toxic vapors (oxides of nitrogen) may be released when azide reacts with nitrous acid.

- 3. Allow the nitrous acid solution to remain in the drain for twenty-four hours.
- 4. Open the exit of the drain.
- 5. Immediately repeat procedure once.

NOTE:

The decontamination of plumbing systems is complicated by a number of factors, including the possible coating of heavy metal azides by impervious materials as well as the possible accumulation of heavy metal azides in cracks and threads of plumbing. Although the decontamination procedures do reduce the risk of explosion, even a "decontaminated" system should be treated with respect in recognition of the possibility of its being explosive. Maintenance people should be alerted so that proper precautions can be taken before working on plumbing potentially contaminated with heavy metal azides. Good work practices include shielding the person working on the plumbing, maximizing the distance between the person and the plumbing, and keeping all unnecessary personnel out of the area.

⁴ This procedure has been recommended and used by the Dept. of Health and Social Security, Government of the United Kingdom.

Where it is not possible for a drain line to remain filled with sodium hydroxide solution for at least 16 hours, Coulter Electronics, Inc. has suggested the following².

- 1. Pour five gallons of sodium hydroxide solution into the piping rapidly enough to simulate the flushing action of a water closet. **CAUTION:** The solution is caustic!
- 2. Allow the pipe to remain undisturbed by water or other effluents for at least 16 hours.
- 3. Flush with copious amounts of water.
- 4. Repeat steps 1, 2, and 3 two more times at intervals of a week or so.

Descriptions of several other procedures which have been suggested for the decontamination or azides are listed in the <u>Journal of Chemical Education</u>³.

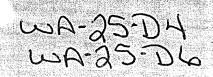
PRECAUTIONS

Because the possibility of residual sodium hydroxide will always exist, personnel should wear gloves and face shields when breaking the drain line or trap for maintenance. (This equipment should be worn when breaking any laboratory drain, as the presence of hazardous chemicals should always be suspected.)

Extreme caution should be exercised when plugging a drain line potentially contaminated with heavy metal azides.

² Personnel Communication from Coulter Diagnostics, Inc., June 3, 1976.

³ James O. Wear, "Azide Hazards with Automatic Blood Cell Counters." *Journal of Chemical Education,* 53, A23-A25, January 1975.





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DECONTAMINATION PROCEDURES FOR AZIDE CONTAMINATED PLUMBING

The following procedure¹ has been suggested by the Center for Disease Control, U.S. Public Health Service, for use in its laboratories:

- 1. Prepare 1 to 2 liters of 10% sodium hydroxide solution (100 g NaOH per liter of water).
- 2. Syphon all liquid from the trap and drain using a soft rubber or plastic hose. Use proper precautions against any hazardous chemicals which may be present.
- 3. Slowly pour the sodium hydroxide solution into the trap.
- 4. Tape to the sink a warning sign reading "Do Not Use Sink . . . Contains Caustic Material."
- 5. Allow the solution to remain in the trap for a minimum of 16 hours.
- 6. Flush the drain with water for a minimum of 15 minutes.

If the drain will not flow, the sodium hydroxide should be removed by syphoning, if possible, then diluted with water. Maintenance personnel should be advised that the drain is potentially contaminated with explosive agents and caustic material.

The above procedure is designed to decontaminate a drain trap. Longer lengths of drain lines can be decontaminated with a similar procedure after plugging the drain below the point at which any azide contamination is likely to have occurred and then filling the entire length of pipe with 10% sodium hydroxide solution.

¹ Manual Guide - Safety Management, No. CDC-22, Decontamination of Laboratory Sink Drains to Remove Azide Salts, Center for Disease Control, Atlanta, Georgia, April 30, 1976.