

**WARD'S TECHNICAL INFORMATION**  
**WARD'S POLYCHROME DNA STAIN FACTS**

TRADE NAME /SYNONYMS: WARD'S POLYCHROME DNA stain MSDS#1301  
CHEMICAL NAME/SYNONYMS: N/A  
CHEMICAL FAMILY: N/A  
FORMULA: Polychrome Aqueous Solution  
PRODUCT CODE: (250 mL) 38W9013 - Product Sample  
(500 mL) 38W9012

**HAZARDOUS MATERIALS IDENTIFICATION SYSTEM:**

	Rating
Health	2
Fire	0
Reactivity	0

**CHEMICAL DATA:**

Boiling point (F)	212	Specific Gravity(water=1)	1.00
Vapor pressure	14	Percent Volatile by volume(%)	n/a
Vapor Density (air=1)	0.7	Evaporation Rate (ether=1)	>1

**SOLUBILITY IN WATER:** Complete

**APPEARANCE AND ODOR INFORMATION:** Dark aqua; No Odor

**ABSTRACT:**

Ward's DNA stain provides clear imaging of DNA fragments without the use of hazardous chemicals. In comparison to the other types of DNA stains, Ward's DNA stain provides several considerable advantages. Although it is not as sensitive as Silver Nitrate, it will image 1.0 to 1.4ug of DNA per well. Silver Nitrate's disadvantages lie in the complexity of the staining protocol. It uses a laborious and rather complex protocol, up to 14 steps resembling wet plate photography, that may not be suitable for all students. The method must be followed very closely to obtain good results. Ward's economical 2 step DNA imaging system will provide even a beginner with consistent and accurate results. Ethidium bromide is another sensitive DNA stain and will image 0.2 to 0.5ug of DNA, however, this too, uses several hazardous chemicals. It also requires the use of a UV light source that fluoresces the stain and the taking of a photographic image for analysis. Ward's DNA stain even has clear advantages over the biological stain, methylene blue, which is the stain normally used in imaging DNA at the educational level. Numerous experiments have been performed to compare the methylene blue with the Ward's DNA stain and we have concluded that Ward's DNA stain will provide an improved contrast of bands, that are visible without the use of a light table, which is usually required to observe faint DNA bands that have been stained with methylene blue. Ward's DNA stain will only stain the DNA and not the gel matrix and thus, it will destain easier, provide a clearer background and permit more bands to be identified with greater ease. Ward's DNA stain provides a distinct and measurably clear alternative to the above mentioned DNA staining options. This stain protocol requires no other chemicals and provides clear DNA fragment band imaging. Ward's DNA stain can be used with either agarose or PAGE gels.

(con't)

*For technical information or assistance, call Toll-free : 1-800-962-2660 or Fax: 1-716-334-6174*

**WARD'S**

Natural Science Establishment, Inc.  
5100 West Henrietta Rd. • P. O. Box 92912 • Rochester, NY 14692-9012

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(con't)

**DIRECTIONS FOR USE:**

**PERSONAL PROTECTIVE EQUIPMENT:** Wear protective rubber gloves, chemical goggles, apron, and have an eye wash station within 15 second walk from work area.

1. Use directly from bottle. Do not dilute. Place electrophoresed gel into staining tray and pour into tray (NOT DIRECTLY OVER GEL) approximately 75-100 ml of Ward's DNA stain or enough to just cover the gel.
2. Allow the gel to stain for 3 hours; Staining times exceeding 3 hours will lengthen destaining time, and may result in a darker background.
3. Carefully decant the stain from the staining tray. Use a spatula ("gel handler") to hold the gel flat against the bottom of the staining tray. Do not reuse DNA stain. The used stain may be disposed directly to sink drain followed by copious quantities of water.
4. Add distilled water to the staining tray (do not pour directly onto the gel) to a depth of 1 inch. Allow the gel to destain overnight. Generally, a 12-18 hour period is required; or you may destain until all DNA bands are clearly visible. Replace once or twice the colored water with fresh distilled water. Use of an orbital shaker is recommended to lessen the destaining time. Excessive destaining may cause the small DNA fragment bands to fade.
5. Following destaining, remove gel from tray and carefully wrap in clear plastic wrap. Bands will appear mauve-colored and can be viewed in available light.
6. Gel may be stored in refrigerator for at least 3 weeks before fading, since nucleic acids are not fixed.

**FIRST AID DIRECTIONS:**

**INHALATION:** Not an inhalation hazard in the form provided.

**SKIN:** Flush with water, if irritation occurs seek medical attention.

**EYES:** Immediately flush with plenty of water for at least 15 minutes. (including eyelids). Get medical attention.

**INGESTION:** If conscious, give 1 or 2 glasses of water, induce vomiting. Immediately contact physician.

Store in a cool, dry place. Wash thoroughly after handling. Keep container tightly closed when not in use.

**STORAGE CODE:** Green (General Laboratory Storage)

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