MATERIAL SAFETY DATA SHEET

Van Gieson Solution / 5th version (USA), September 1, 2008

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Component Name: **Van Gieson Solution**

Applicable Product(s): **AR163 // Elastic Stain Kit, Artisan™**
SL021 // Elastic Stain System

Company Identification: Dako North America, Inc., 6392 Via Real, Carpinteria, California, 93013, United States.
Tel. +805/566-6655, FAX +805/566-6688

24-Hour Emergency Contact: CHEMTREC +800/424-9300 (U.S.A. and Canada only)
+703/527-3887 (all other countries)

2. COMPOSITION/INFORMATION ON INGREDIENTS

% / Chemical Name:	CAS# / EINECS#:	Hazard Classification:
>80 / Water	7732-18-5 / 231-791-2	None identified
10 / Polyethylene glycol 200	25322-68-3 / 203-473-3	None identified
1-<3 / Picric acid	88-89-1 / 201-865-9	E: R2-4 T: R23/25/25
1-<3 / Acid Fuchsin	3244-88-0 / 221-816-5*	S22-24/25

(*EINECS chemical identification - 3-(1-(4-amino-3-methyl-5-sulphonatophenyl)-1-(4-amino-3-sulphonatophenyl) methylene) cyclohexa-1,4-dienesulphonic acid))

NOTE: The Hazard Classification listed in this section refers to the chemical at a pure concentration. It has been determined that the remaining ingredient(s) of this component/product are NOT CLASSIFIED AS HAZARDOUS CHEMICALS due to their physical and/or chemical nature and/or concentration in solution, in accordance with California and Federal OSHA regulations (Federal Register 29CFR 1910.1200), and The Chemicals (Hazard Information and Packaging for Supply) Regulations (European Community).

3. HAZARDS IDENTIFICATION

Physical and Chemical Hazards: In aqueous solution, this component is stable and non-flammable. CAUTION: If the solution is dried, potentially explosive compounds may form that are shock and temperature sensitive.

Skin Contact: May cause irritation, redness, itching, dermatitis or discoloration.

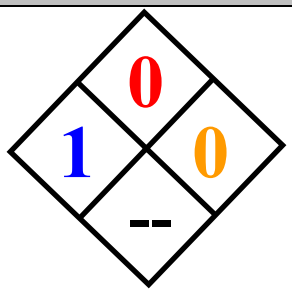
Eye Contact: May cause irritation.

Inhalation: May cause irritation of mucous membranes, watery eyes, coughing or bluish face and lips.

Ingestion: May cause irritation of lips, mouth and throat, abdominal cramps, nausea, vomiting or discoloration of oral mucosa.

Environment: None identified.

4. NATIONAL FIRE PROTECTION AGENCY (NFPA) RATING



Fire Hazard / Flash Points: Non-Flammable

Health Hazard: Slightly Hazardous

Reactivity: Normally Stable

Specific Hazard: None identified

5. EMERGENCY FIRST-AID MEASURES

Skin: Remove victim to nearest source of water. Remove contaminated clothing, blot excess chemical from skin and wash affected area under lukewarm water using a mild soap. Rinse for at least 20 minutes and blot dry. Seek immediate medical attention.

Eye: Remove victim to nearest source of water, blot excess chemical from face and gently rinse affected eye(s) with clean, lukewarm water for at least 20 minutes. In order to cleanse as much of the eye as possible, be sure to wash under eyelids. If worn, have victim remove contacts. Seek medical attention. If eyes are painful or sensitive to light, protect with a clean, loosely tied handkerchief or towel. Maintain physical and verbal contact with victim.

Inhalation: Remove victim to well-ventilated area. Seek medical attention. If conscious but coughing or short of breath, loosen tight fitting clothing, have victim lie down and keep warm and calm. Oxygen may be given. If simply overwhelmed, loosen tight clothing, lie victim down, monitor pulse and keep warm and calm.

Ingestion: Remove victim to well-ventilated area. Seek immediate medical attention. If face is blue or breathing is labored, lay victim on back, open and clear airway and give oxygen. Keep victim warm and calm. If unconscious, lay victim on side, loosen tight clothing and monitor vital signs. If conscious, give water and have victim rinse mouth. If vomiting, have victim sitting up and leaning forward.

6. FIRE-FIGHTING MEASURES

Flash Point / Explosion Information: N/A (Non-flammable) / LEL: N/A UEL: N/A

Precautions During Fire: Avoid inhalation of toxic fumes. If possible, safely move container away from fire area.

Suitable Extinguishing Media: Water.

Special Exposure Hazards: If Picric acid has less than 10% water, it becomes explosive, sensitive to heat and shock. If allowed to dry, it forms highly explosive picrates with metals, in particular: Copper, Lead and Zinc. Combustion or decomposition of material may produce hazardous and/or irritating fumes.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.

7. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Personal protective equipment and clothing is recommended during all cleanup procedures. Eliminate all ignition sources, stop or control leak. Refer to Section 8 for additional information on exposure controls and personal protective equipment.

Environmental Precautions: Do not allow into any body of water. Check with local and State regulations before discharging into sewers or public landfills.

Methods for Cleanup: Avoid physical contact during removal. An approved respirator is recommended when irritant or nuisance vapors are produced. Flood area with water immediately. Control spill with wetted paper towels and isolate material. Place in a closed container and hold for waste disposal. Make sure towels or absorbent materials remain wet while waiting for chemical waste pick-up. Ventilate area and wash spill site after material pickup is complete. Refer to Section 13 for complete disposal information.

8. HANDLING AND STORAGE

Keep containers tightly closed. Store in a dry, well-ventilated place at room temperature. Keep out of reach of children.

9. EXPOSURE CONTROLS / PERSONAL PROTECTION

Permissible Exposure Limit (OSHA TWA/TLV/STEL):

Polyethylene glycol 200:	None identified.
Picric acid:	0.1 mg/m^3 (TWA).
Acid Fuchsin:	None identified.

Precautionary Measures During Use: Avoid physical contact and prolonged or repeated exposures. A chemical fume hood is highly recommended. Do not breathe vapors if produced. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Mechanical exhaust is required.

Inhalation: Respiratory protection is highly recommended if irritating vapors are produced during routine usage of this product. Though it is not likely, if TWA or other exposure limits are exceeded during the usage of this material, attempt to reduce exposure levels to within an acceptable range. If this is not possible, use a NIOSH/MSHA-Approved respirator. Follow NIOSH/MSHA and equipment manufacturer's recommendations to determine appropriate equipment choice. Chemicals without established limits must also be considered when determining respiratory protection protocols.

Skin: Use chemically resistant gloves (e.g. rubber, plastic), lab coat with sleeves or rubber apron.

Eye: Splash-proof chemical safety goggles or face shield.

Other: Eye wash or safety shower.

Environmental Exposure Controls: Not available.

10. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Orange-red liquid
Odor: None
pH (as supplied): N/A
Boiling Point/Boiling Range: N/A
Melting Point/Melting Range: N/A
Flammability (liquid): NON-FLAMMABLE
% Volatiles by Volume: N/A
Autoflammability: N/A
Oxidizing Properties: N/A
Vapor Pressure (kPa): N/A
Relative Density (gm/mL @ 20ºC): 1.020
Water Solubility: Soluble
Alcohol or Glycerol Solubility: N/A
Evaporation Rate: N/A

11. STABILITY AND REACTIVITY

Stability: Stable when used appropriately.

Conditions to Avoid: Contact with heat, sparks, flames and other ignition sources. If allowed to dry, picric acid may form **HIGHLY EXPLOSIVE** and unstable picrate crystals.

Materials to Avoid: Ammonia bases and metals.

Hazardous Decomposition Products: Nitrogen dioxide and carbon dioxide.

12. TOXICOLOGICAL INFORMATION (dangerous-to-health effects)

Polyethylene glycol 200:	No LD_{50} / LC_{50} information available in relation to normal routes of occupational exposure. Target organ(s): None identified.
Picric acid:	**Toxic. Irritant.** Orl-rat LD_{50} = 200 mg/kg. Target organ(s): Blood, Kidneys, Liver.
Acid Fuchsin:	**Irritant.** No LD_{50} / LC_{50} information available in relation to normal routes of occupational exposure. Target organ(s): None identified.

NOTE: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated at product concentrations.

13. ECOLOGICAL INFORMATION

Mobility: This product/component is water soluble and may spread in water systems. This product/component is non-volatile.

Degradability: No information available.

Accumulation: No information available.

Ecotoxicity: No information available.

Other Hazardous Effects: None identified.

14. DISPOSAL CONSIDERATIONS

Waste Management Information (Disposal): When disposing of the unused contents, the preferred options are to send to a licensed reclaimer, or permitted incinerators. Any disposal practice must be in compliance with local, State, and Federal laws and regulations. Check with local and State regulations before discharging into sewers or public landfills. Do not dump into any body of water.

15. TRANSPORT INFORMATION

IATA Classification: NOT RESTRICTED. When shipped alone or with other non-hazardous materials, the text "NOT RESTRICTED" must be included in the description on the Air Waybill to indicate that this mixture is not subject to IATA regulations, and has been checked. (4.1.3.3 / *IATA Dangerous Goods Regulations*).

Proper Shipping Name: N/A
Hazard Class#: N/A
ADR/RID: N/A
Packing Group# / PI#: N/A
UN#: N/A

16. REGULATORY INFORMATION / LABELING

Contains: Chemical identification not required on label.

R-and S-phrases:

: "Safety Data Sheet available for professional user on request."

Labeling Note: In accordance with EEC Directives 67/548/EEC and 88/379/EEC, this component/product is not subject to a hazard classification, but the labeling shown above must be applied.

Hazard symbol(s):

NOT REQUIRED

Restrictions on Use: The product is for laboratory use only. The product must not be handled by persons under 18 years of age.

Training Provisions: The product should be handled only by technically qualified individuals experienced in handling potentially hazardous chemicals. The content of this Material Safety Data Sheet should also be known before use.

OSHA Status: In accordance with the OSHA Hazard Communication Standard, at product concentrations, the chemical components listed on this Material Safety Data Sheet are classified as hazardous.

Toxic Substances Control Act (TSCA): This product complies with all TSCA inventory requirements.

California Proposition 65: The following statement is made in order to comply with the California State Drinking Water and Toxic Enforcement Act of 1986. **This product does NOT contain chemicals on California's listing of known or suspected carcinogens.**

Applicable Compliance Standards: This Material Safety Data Sheet is in compliance with the Federal Occupational Safety and Health Administration's Hazard Communication Standard [29 CFR 1910.1200 ET. SEQ.], and The Chemicals (Hazard Information and Packaging for Supply) Regulations 1994 (European Community).

17. OTHER INFORMATION

Wording of Risk Phrases:

R2	Risk of explosion by shock, friction, fire or other sources of ignition.
R4	Forms very sensitive explosive metallic compounds.
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.

User Note: The information in this Material Safety Data Sheet was obtained from sources which we believe are reliable. However, the information is provided without any representation or warranty, express or implied, regarding its accuracy or correctness. Although certain hazards are described herein, we cannot state that these are the only hazards which exist. Final determination of suitability and safe usage of this product is the sole responsibility of the user who is obligated to review this data in the specific context of the intended use and determine applicability.

Trade Secret Provision and Chemical Concentration Disclosure: In accordance with OSHA and European Union regulations (20 CFR 1910.1200i and 1999/45/EC), specific chemical identities may be withheld provided all required provisions of the regulation are met. Chemical concentrations may be disclosed as either a specific value or range, provided the range given is applicable to the hazards as identified by the MSDS.

Hazard Symbol Key: C: Corrosive / E: Explosive / F: Highly Flammable / F+: Extremely Flammable / N: Dangerous for the Environment / O: Oxidizing / T: Toxic / T+: Very Toxic / Xi: Irritant / Xn: Harmful

Sources of Key Data: Material Safety Data Sheets from suppliers, the Sigma-Aldrich Library of Chemical Safety, Merck Index, Sax's Dangerous Properties of Industrial Materials, American Conference of Government Industrial Hygienists – 2002, and North American Emergency Response Guidebook. The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No. 1689. Commission Directive 91/155/EEC as amended by Commission Directive 2001/58/EC (Safety Data Sheets) in accordance with Parliament and Council Directive 1999/45/EC and Council Directive 67/548/EEC. Additional chemical information and hazard classification data provided by the Danish Toxicology Centre.

Revision date: September 1, 2008
Replaces 4th version of May 1, 2006. This MSDS has been reformatted and specifically updated. All MSDS's generated before the revision date should be discarded.