

SUMMARIZED MSDS AND ENVIRONMENTAL INFORMATION  
FOR NASCO-GUARD® SPECIMENS  
UPDATED JANUARY 2006

**Manufacturer's Name:** NASCO, Fort Atkinson, Wisconsin 53538-0901  
**Emergency Phone Number:** 920-568-5565

The following safety data applies to NASCO-Guard® preservative fluid (or tissue fluids) containing approximately 74% water, 25% propylene glycol (1, 2-propanediol), 0.3% or less formaldehyde, and a possible trace of phenol. The Chemical Abstracts Service (CAS) registration number for propylene glycol is 57-55-6. The CAS number for formaldehyde is 50-00-0. The CAS number for phenol is 108-95-2. As required by law, we will provide complete information on each of the fixative and preservative chemicals that may be present in our specimens.

**GENERAL INFORMATION:** NASCO-Guard® specimens are initially fixed in formaldehyde solutions ranging from 0.8%-3.7%. The embalming fluid of large animals (e.g., cats, dogs, fetal pigs) may also contain 1.9% phenol. All specimens are subsequently perfused with a propylene glycol-water solution until tissue fluids and ambient fluids contain at least 25% glycol. Residual free formaldehyde is thus reduced to 0.3% or less. Phenol, if present, is reduced commensurately. Propylene glycol is nontoxic.

**APPEARANCE AND ODOR:** Colorless, sweet tasting liquid with mild odor (slight disinfectant odor if phenol is present).

**FIRE AND EXPLOSION HAZARD:** None.

**HEALTH HAZARD: NASCO-GUARD® PRESERVATIVE FLUID (OR TISSUE FLUIDS)**

**EYES:** Direct contact with eyes may cause irritation. Wash eyes with water. Safety glasses may be worn as a precautionary measure.

**SKIN:** Mild irritation possible in hypersensitive individuals. Wash hands with soap and water after handling specimens. Rubber or plastic gloves may be worn as a precautionary measure.

**INHALATION:** Very small quantities of formaldehyde gas can cause distress (dizziness, nausea, headache, etc.) in hypersensitive individuals. Specimens should be used in a well-ventilated room.

**ORAL:** Because NASCO-Guard® specimens are moist packed little fluid is available for consumption. Residual phenol could be toxic, but ingestion is unlikely due to medicinal odor.

**EMERGENCY AND FIRST AID PROCEDURES:**

**SWALLOWING:** Drink large amounts of water. Do not induce vomiting. Get medical attention immediately.

**SKIN:** Wash with soap and water.

**INHALATION:** Remove to fresh air. Call a physician if discomfort persists.

**EYES:** Flush with water.

**SUPPLEMENTAL INFORMATION ON CHEMICALS THAT MAY BE PRESENT IN NASCO-GUARD® SPECIMENS:**

**PROPYLENE GLYCOL** is nontoxic, as evidenced by its wide use in foods, pharmaceuticals, and cosmetics. Ingestion may cause nausea. It may cause minor skin irritation.

**FORMALDEHYDE** is well known for its toxic and irritant properties. A large quantity of NASCO-Guard® would have to be ingested to inflict a lethal dose because its residual formaldehyde concentration is 0.3% or less.

**PHENOL** can be toxic. Because phenol has a distinct medicinal smell, however, it is unlikely that specimens containing phenol would be eaten. Phenol's wide use as a disinfectant and deodorant attests to its relative safety when used in highly diluted solutions.

Detailed MSDS information for propylene glycol is included in this summary. Detailed MSDS information for formaldehyde and phenol may be ordered from NASCO's Safety Officer, Dept. MSDS, 901 Janesville Avenue, Fort Atkinson, WI 53538-0901. Be reminded however that the tabulated chemical and physical properties are for "full strength" concentrations. Formaldehyde and phenol are present in our specimens in only trace amounts. Propylene glycol and water are the main ingredients: both are nontoxic.

**DISPOSAL OF SPECIMENS:**

NASCO-Guard® specimens are biodegradable. They are suited for burial in an approved sanitary landfill or for incineration. Ambient fluids may be safely disposed via city sewers.

**PRESERVED SPECIMEN POLICY STATEMENT**

NASCO is a manufacturer and distributor of physical science, chemistry, earth science, and life science teaching materials including preserved zoological specimens. In the course of doing business, skilled NASCO employees preserve, process, and package specimens under the trade name of NASCO-Guard® Preserved Specimens according to guidelines of the U.S. Department of Agriculture. We do not process or sell any specimens that might appear on a threatened or endangered species list.

Since 1941, NASCO has been dedicated to Educational Supply. Specimens sold in the Nasco catalog are collected and processed throughout the world. In our facility we are licensed and/or governed by the U.S. Fish and Wildlife Service, the United States (and Wisconsin) Departments of Agriculture, and the Wisconsin Department of Natural Resources. We follow all guidelines for euthanasia as listed in the Report of the American Veterinary Medical Association Panel on Euthanasia. Worldwide collections are also monitored by the Convention on International Trade in Endangered Species (CITES). Examples of this would be fish which are collected for their food value and night crawlers which are primarily collected to use as fishing bait. Many other specimens that we supply come to us from Midwest slaughterhouses. If NASCO did not purchase materials for preservation, these inedible animal parts would normally be processed for pet food.

All the cat carcasses processed by NASCO come to us from licensed humane societies, animal shelters and animal control facilities after they have been humanely euthanized in accordance with USDA regulations. It is our policy and belief that none of the cats have been euthanized solely to serve the needs of the biological supply industry. It is our policy to process and recycle only euthanized cat carcasses.

Thank you for purchasing NASCO-Guard® specimens. If you need further information about our NASCO-Guard® Preserved Specimens, please contact us.