

Collection Forum

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Papers

TAPE APPLICATION: A JAR SEALING METHOD FOR REDUCING ETHANOL EVAPORATION IN FLUID-PRESERVED COLLECTIONS

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Evaporative loss is a major concern for fluid preserved collections. Evaporation tends to a decrease in preservative concentration and eventually to specimen desiccation. Evaporative loss from small jars (<1 liter capacity) was observed in the Fish Collection at the Canadian Museum of Nature. Research into reducing rates of evaporative loss was initiated since small jars account for about 40% of the 100,000 jars in the Fish Collection. Five different tapes were tested for their sealing properties at the jar-lid junction of 375mL jars. Teflon tape was applied to the jar necks in three different ways. Adhesive tapes (aluminum foil, polyethylene-rubber, polyethylene-acrylic and polypropylene-acrylic) were applied over the outside of the jar-lid junction. Jars were initially filled with 10mL of a solution of 70% v/v ethanol/water. Evaporative loss was assessed by calculating the weight reduction of the jars. Regression graphs showing weight loss over time and a grouped box plot were used to compare the different test groups. Results indicated that the rate of evaporative loss was reduced significantly with the application of polypropylene-acrylic adhesive tape over the jar-lid junction. The acrylic adhesive was tested for stability in the presence of ethanol solutions at room temperature (20°C) and at 50°C.

NORWEGIAN NATURAL HISTORY MUSEUM COLLECTION COMPUTERIZATION: A FIRST REPORT

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Large collections of natural history specimens are housed in university museums in Norway. To make these more accessible to users, the collections are being computerized for subsequent Internet access. Use of non-professional labor to aid data entry is being partly financed by government employment programs. Supervision and information validation by scientific staff ensures the quality of the resulting database. The combined scientific and non-professional labor has proved useful in a situation where the universities cannot finance sufficient scientific positions.

A STUDY OF THE RESPONSE OF DRY SKIN TISSUE TO WATER SATURATION AND SUBSEQUENT DRYING TREATMENT

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A study was initiated to evaluate the suitability of flood recovery treatments for water saturated skin tissues associated with bird and mammal collections. A series of untreated, dry skin samples were saturated in water at 20°C, 40°C and 60°C. Each series was subdivided so that part was dried by various freeze-drying methods. The ambient moisture absorption potential and shrinkage temperature of skin samples was documented for each treatment group and the results were compared to untreated skin samples. Results of these studies support actions taken during and after a specific emergency situation, and suggest that these actions may be appropriate for inclusion in emergency preparedness plans for bird and mammal collections.

PHYSICAL CHEMICAL PROPERTIES OF PRESERVATIVE SOLUTIONS - I. ETHANOL-WATER SOLUTIONS

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The paper presents data on the physical-chemical properties of ethanol-water solutions over the concentration range of 0-100%. It describes, tabulates, and graphs the relations between volume percent, weight percent and mole fraction as measures of the concentration of ethanol-water solutions. Data are presented on partial and total vapor pressures, vapor phase concentration, equilibrium relative humidity, water activity, osmotic pressure, freezing point, boiling point, refractive index, flash point, the dielectric constant, and the antiseptic effect as functions of concentration.