



River City Data

December 2005 Newsletter

Vinegar Syndrome: What is it
and why do I care?

VINEGAR SYNDROME - WHAT IS IT AND WHY DO I CARE?

Long-term storage of film has been an industry concern since the beginning of filming. Moisture, temperature, acids and vapors from the atmosphere that surround stored film have an impact on the life expectancy of film. "Vinegar Syndrome", is a term used to describe the chemical reaction that goes on during the deterioration of cellulose triacetate film. When cellulose triacetate begins to decompose, producing a vinegar odor when a can is opened. Once the reaction is started, it cannot be stopped.

The easy way to tell Vinegar Syndrome is by the pungent odour that emanates from a film, and can only be likened to the acetic smell of vinegar. Although Vinegar Syndrome varies in intensity and smell, even the slightest hint of a smell that remotely resembles vinegar is of concern because it is an indication that the film stock is in a state of deterioration. Ultimately, the slightest of smells will deteriorate to extremely unpleasant smells, and along with this the film will buckle, soften and become unusable.



It is possible to stabilise Vinegar Syndrome in several ways, but it is extremely important to isolate any affected film from other 'good' film as soon as the syndrome is first detected. Stabilisation is at best a short-term solution, often involving some expense. Film may be placed in a humidity controlled refrigerator or freezer to lessen the effect of deterioration, or a commercial substance such as 'Molecular Sieves', may be placed inside cans holding affected film. There are also many ways to lessen the odour, but these will not stop deterioration, and ultimately the film may not smell so bad, but it will be guaranteed unusable.

TESTING FOR VINEGAR SYNDROME

A handy way to test film for the presence of vinegar syndrome is the use of A-D Strips, small strips of specially treated paper that change color to indicate the severity of degradation. The strips are placed inside a film can for a day or so; their color is then compared to a color chart that is calibrated in stages of film deterioration. A-D Strips can detect vinegar syndrome before there is a noticeable vinegar odor.

MOLECULAR SIEVES

Molecular Sieve is a promising new technology developed by Eastman Kodak Company, that has the ability to retard the vinegar syndrome reaction. Simply stated, the inclusion of Molecular Sieve with processed film in a sealed container has the ability to extend the life of the dye images and film support beyond that which is currently considered normal.

WHEN SHOULD THE MOLECULAR SIEVE BE USED?

Molecular Sieve can be introduced at any stage of film storage, but is most effective when introduced at the earliest opportunity (after lab processing and before storage).

HOW TO USE THE MOLECULAR SIEVE

Molecular Sieve is held in a semi-permeable packet of Tyvek™ - which allows vapors to be easily scavenged and contained. The Molecular Sieve packets should be placed evenly around the outside circumference of the film roll. The packets can be folded lengthwise for 16mm applications. Film and Molecular Sieve packets are then inserted in a polyethylene plastic bag. The bag should be folded over within the container. If you decide not to use a bag, the can should be sealed with moisture proof tape. It is important that the container be clean and rust free.

Each Molecular Sieve packet contains 12.5 grams of Molecular Sieve desiccant. Using the proper amount of Molecular Sieve is important for optimum storage results. Never use more than the recommended amount.

The following chart indicates the appropriate amount of packets for different formats and roll sizes as well as placement within the container.

Film Type	Size	# Packets
35 mm	2,000-foot roll	6
35 mm	1,000-foot roll	3
16 mm	2,000-foot roll	3
16 mm	1,000-foot roll	2

In general, three packets, each containing 12.5 grams per 1,000 linear feet of 35mm film are recommended.

WHAT WE CAN DO FOR YOU

River City Data's specialists can come to your business, or where you store your film, and help you assess your situation at no charge to you. We can help determine the condition of your film, what steps need to be taken to salvage any film and minimize any further loss. There are several types of film stock, and we can help you determine what you have and how best to best store your film to preserve it into the future.

River City Data

212 N Smith Ave

St Paul, MN 55102

Phone: 651-292-0929

Fax: 651-292-1493

Email: info@rivercitydata.com

Web: www.rivercitydata.com