

# Photographic **First Aid Kit**



**Preventing damage and preserving photographs.**

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## Intro

At one time, that photograph was a new possession, one displayed proudly and then retired to a drawer, album or a storage box. When viewed again, many years may have passed and to our disappointment, our memories are far from the new creation we were so proud of once.

The physical enemies of photographs include obvious villains (like direct sunlight, insects and rodents) and those that are more subtle: adhesives that degrade over time, sulfur compounds that can be given off by wood or rubber and trigger fading, and high humidity that can encourage mold growth. There are measures that can be taken to prevent premature damage and the disappointment attributed to this.

Natural disasters are another enemy of photographs, unpreventable and you will find our recommendations for after the fact treatment and preservation later in this material.

“Photo ER” is continually investigating restoration techniques and preservation methods and until they develop the damage proof and permanent photograph we will be available to preserve and restore your precious memories.

## Preventing damage

The precautions that we take with our photographs now are essential to their future. How we handle those of the past are as equally important for you to take a few moments to see what measures need to be taken to prevent disappointment later.

## Storing

**Family albums and Collections of Loose images** – Family albums and collections of loose images need to be organized as well as protected. Loose-leaf albums are great for organizing. However, many commercial grade albums, as well as the familiar old photo albums with black paper pages, are considered potentially hazardous because they may have been made of unsafe materials. Photo albums with magnetic sheets can leave adhesive residues on images, and vinyl album pages have the potential to give off harmful fumes.

When the albums or collections consist of a mixture of sizes and formats, the photographs can be arranged on archival paper pages and mounted with archival photo corners. The complete page can be inserted into clear Mylar or polypropylene pockets and pre-punched for 3 ring binders.

New photograph formats of 3"x5", 4"x6" and 5"x7" can be stored safely by using multi pocket album pages made of inert polypropylene instead of non-archival materials. Archival materials can be purchased from most photo finishing suppliers or through online sources.

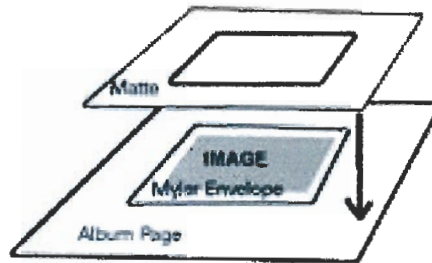
### ***Some How to:***

- First, take your photos out of 'magnetic' albums. The materials they are made of, ordinary plastic, glue and cardboard, will damage photos over time. If you use a commercial photo album, look for one labeled "acid-free."
- Remove any glue, tape, staples, rubber bands and paper clips that might stain, scratch or dent photographs before placing them in an album, storage box or frame.
- Be sure to label the back of the photo gently with a soft pencil. Include the names and ages of those in the photo along with where the photograph was taken. This will help those who inherit your photographs identify them. **Do not use a ballpoint pen to write on the back of photographs.** The pressure of the pen may damage the photo and the ink will likely fade over time.

### **Un-mounted Albumen Prints**

Un-mounted albumen prints including those from old and deteriorating mounts pose a special problem: they have an alarming tendency to curl. Some collectors and institutions hinge them at four corners. A suggestion of another remedy is to insert the print into a strong clear Mylar envelope, then seal it and attach to a strong acid free matte board. Once done, affix the matte board to the albumen page. This will hold the image flat and provides support for the photo; suggest hinging on one side for access to the envelope.

Mylar envelopes containing archival prints that have not been matted before can also be stored in an archival box. Fragile image prints on material other than archival paper can benefit from the same treatment.



The most important details that you need to remember about albums are that they are used to protect and preserve your photographs. The aesthetics of the album are only secondary to the preservation qualities of the album. The costs of these albums may seem high, but you are not only paying for archival properties, you are also paying for research and development of these products. Make sure the materials that are used in manufacturing are approved for longevity and always purchase your supplies from reputable sources.

### **Larger Photographic Prints**

You will get the most protection for the money by putting each one in a separate polyethylene bag a zip lock type is best. This is a quick and protective solution to prints, which are not going to be matted or displayed, while providing you with the peace of mind that they will be preserved.

If large quantities of photographs are to be stored in a archival box and not in plastic protectors it is recommended they be layered between sheets of 100% acid free paper and then into a larger plastic protector.

Zip Lock sandwich bags can provide an inexpensive protection for smaller photographs and larger freezer bags will accommodate the larger size photographs of normal format.

### **Tintype Photographs**

Buried in that trunk in the attic may exist early photographs known as "Tintypes" that were popular in the early days of photography. Recognizable as images that were captured on thin metal plates with a black gray or brown appearance. This soft metal is susceptible to damage from scratches, oxidizing, bending and denting.

Clear Mylar envelopes can serve this purpose. You can cut an acid free cardboard backing to the size of the envelope and insert it with the "Tintype" then carefully affix the flap to the album page providing viewing, stability and protection.

## **Negatives and transparencies (35mm Slides)**

Negatives and transparencies can be stored the same way as photographic prints, using the same high quality papers and plastic, which pass the ANSI IT9.16 Photographic Activity Test (PAT). The PAT, was developed by the American National Standards Institute (ANSI) and is a test that determines whether a storage material will cause fading or staining in photographs.) There are paper and plastic enclosures and storage boxes designed for film formats available from most manufacturers. Like prints, negatives and transparencies should be stored in a cool, dry location.

Fortunately, many negatives now return from the photo lab stored in plastic pocket pages that appear to be safe for the films (they frequently are polyethylene). Likewise, the plastic boxes that store slides are usually safe (they frequently are polypropylene). Slides can also be stored in plastic slide pages (a type of pocket page that holds 20 slides) or stored in metal or cardboard slide boxes. Older plastic or paper enclosures from the photo processor may not be safe for long-term storage of photographs. If the paper has become brittle, has stained or marred the photo, or has caused fading, it needs to be replaced with a high quality envelope that passes the PAT.

Old film negatives may develop a vinegar odor with time, or warp and wrinkle. This is a sign that the plastic is deteriorating. Only storage at cold temperatures can slow this irreversible decay process. Cold storage is not practical for most people and can even cause more immediate damage if used improperly. However, frost-free freezers bags can be used as long as special enclosures and handling procedures are followed. Below are a few precautions that you need to take, but it is recommended to confer with a professionally recognized conservator for additional recommendations.

If the negative is of historically important and/or has significant family value, it should be duplicated, before it deteriorates beyond salvation.

Use clear plastic bags such as Freezer Zip-locks or flush-cut bags with twist-ties (polyethylene or polypropylene plastic bags). Squeeze out the excess air from the plastic bag and seal the bag.

Do not use the bag if: the Zip-lock seal does not work or the bag has tears or holes. It is very important to have an airtight seal.

Whenever removing negatives or film from the storage area, spread out the bagged items to allow for better air circulation. Allow items to warm up slowly in a cool dry area. Small quantities of photographs will warm up faster than large groups or boxes. Warm up time to room temperature may take 30 minutes for one or two items or two to four hours for boxes, depending on the size of the box and quantity of negatives inside.

***DO NOT REMOVE BAGS UNTIL ITEMS NO LONGER FEEL COOLER THAN THEIR SURROUNDINGS! DO NOT ATTEMPT TO SPEED UP THE WARMING OF THE ITEMS BY PLACING NEAR HEAT!***

When bagged photographs or boxes no longer feel cool to the touch and are at room temperature, wipe off any excess moisture condensed on the bag and then open the bag to remove items.

## Storing and the Environment

Temperature, light and humidity affect photographs and documents more than any other element. Best storage conditions are less than 70 degree F with a relative humidity under 50%. High humidity coupled with high temperature will accelerate deterioration. When determining where to store your precious memories please take the following into consideration.

- **Attics and Basements** - The worst places to store your photographs or documents are in an the attic or basements that have not been insulated. In the summer, temperatures in an attic could reach 125 degrees F. while in the winter they can get down to less than 0 degrees. With the constant high temperatures and humidity in the summer and low temperatures and humidity in the winter, the photographs or documents will become brittle. In severe cases, the emulsion (image) on the photograph can separate from the base (paper). These cyclic conditions will have a devastating effect on any paper product.

Basements, which are not insulated, are usually moist which can cause photographs to stick to each other. Another problem encountered in basements is that they are great breeding grounds for insects and rodents which are strongly attracted to gelatin and cellulose in the photographic emulsion.

The best places to store important photographs or documents are in a safe deposit box at your bank. They are usually climate controlled and kept dark to provide almost ideal storage conditions. The ideal storage conditions are 68 degrees +/- 2 degrees and 50% relative humidity +/- 5% relative humidity.

- **Wood, Paper and Paper Products** - Wood and papers contain harmful additives such as bleach or hydrogen peroxide. Use only paper products that are acid free. Proper storage containers are available from archival suppliers (see below).
- **Miscellaneous Materials** - Rubber bands or rubber cement contains sulfur. Sulfur degrades photographic emulsions. Paper clips can abrade or scratch the surfaces of prints or negatives. A pressure sensitive tape usually contains acid, which can accelerate the deterioration process. Any kind of ink also contains acids. Fingerprints on prints or negatives create physical damage from the oils and acids from the human skin.
- **Fumes and Vapors** - From oil-based paints, varnishes, shellac, carbon monoxide (automobiles stored in garages) and photocopiers including laser copiers (most produce ozone as a by-product which is a bleach and

the fumes may accelerate the deterioration process). In addition, the intense light and heat from copiers are detrimental to photographs.

### **Recommended Storage Materials**

- **Paper** - Use only lignin free (from paper pulp), acid free, un-buffered paper. Use this paper to store photographs or as interleaving paper in albums.
- **Plastics** - Any of the following plastics are safe to use in storing photographs, negatives or documents: Polyester, Mylar, Polypropylene, Polyethylene, and Tyvek.

## **Handling**

Any photograph that carries special memories is precious requiring careful handling. Very old photographs in particular require the highest respect whether just offered for viewing or formal display.

Digital photography has done much to provide a safer environment for pictures either as finished or the raw capture of them. In addition, digital offers a means of preserving the damaged material of the past can be rapidly repaired, and corrected.

Not all have evolved to digital, camera lovers amateur to professionals will never abandon the freedom that lighting, and actual film can provide. As long as this medium, past and present, is a part of our lives proper handling is foremost to their preservation.

### **Photographic Prints**

In addition to the material above, concerning proper storage, photo albums, plastic sleeves and the environment, how we personally handle photographs is a separate issue. Older photographs are brittle, unstable, and light and touch sensitive.

It is not expected that you would keep a set of cotton gloves on hand like museums or collectors of quality artifacts do and a small amount of common sense will work just as well. Chemicals on our fingers or moist fingers can be very harmful either immediately or over time to the life of an antique photograph. Chemicals never heard of when the photograph was created can react to the

delicate emulsion coating and cause the prints to oxidize, turn black and deteriorate. Clean and dry hands are essential to preventing this type of damage.

Photographs, new or old, should be handled only by their edges or by their borders without touching the image directly. Do not view or display photographs in direct sunlight and if unavoidable, limit the sun's exposure to a bare minimum? If photographs have, plastic protectors display them in that manner avoiding removing the photograph if possible.

If possible, avoid children handling the photographs without proper supervision or instruction. Avoid making your photographs available to large gatherings with food and drink present. Undoubtedly, that accident will occur.

Today's "RC" prints are made of a plastic based material and can be cleaned with a soft moist cloth, water only. Older prints of paper and cloth substance can be dabbed and then professional advice sought after they have dried.

Digital prints produced from your PC printer and most produced from photo finishing services are not water proof and are highly susceptible to handling damages in every form.

## **Photographic Negatives and Transparencies**

Photographic prints are one thing but negatives and transparencies should require the "Cotton Glove" treatment. Damage to the emulsion side of this film if of major consequence is irreversible and unforgivable. The image is totally lost in most cases when prevention could have avoided the disaster.

Negatives and transparencies have two unique surfaces to make up the film and subsequent image. The base is the shiny plastic side that holds the emulsion side in place. The emulsion side is a very fine application of material that captures the light that is converted finally into a finished image. This material, depending on its sensitivity, is of such a fine nature to allow enlarged images to be produced from a 35mm format. A hairline scratch on the negatives emulsion can equate to a two-inch gap upon the image enlargement. This is the reason for the highest respect and care in the handling of the emulsion of either medium.

The base side is hardly impregnable to damage either. As your plastic glasses, lenses are susceptible to scratches the base side is nowhere as strong. Same size scratches with one difference your eyes view from the same distance and only faintly notice. Light is transferred with magnification to produce images for prints or viewing amplifying the minor scratches dramatically. A good reason that the film base also requires some respect.



Negatives and transparencies should be handled by the edges only and if either surface needs attention it should be with the aid of cotton gloves obtainable from most photo finishing dealers.

## Displaying

Where and how you display your precious treasures is also important in their preservation. It is highly recommended that items of significant value both monetarily and sentimentally be duplicated, and the original be stored while the reproduction is put on display.

In either instance, it is highly recommended that you have the item prepared by a professional framer. They have all the proper materials and expertise and specify that you only want acid-free material to avoid disappointment later.

If you desire to prepare the work yourself for framing, use only acid-free mats to keep photos or documents from touching the glass and acid-free backboards to avoid deterioration of the image.

Special UV (Ultra Violet) protected glass and Acrylic materials are available for protection of images that will have indirect exposure to sunlight. A high gloss floor can damage a photograph reflecting UV's as much as if you hung it in the sun. Use a strong Kraft material to seal the back of the frame from dust and dirt that will in time work through to the photograph. In addition, this is a good place to put all the history about the subject and save un-framing later.

Where you display your material is your preference but whether a wall mount or a table accessory never place in direct sunlight or areas where reflected sunlight is most prevalent. Use of a portrait light has no effect on the fading process and enhances the beauty when used in dimmer areas.

The availability of expert conservators specializing in photographs is a relatively recent development. A conservator can consult on matters of preservation, display and storage. In addition, many offer expertise in safely cleaning and restoring damaged photographs. Not all conservators offer the same services, but most will make referrals to other specialists in the field.

If you live near a museum with a large collection of photographs, it is a good place to start your search for a conservator. Another source is the professional group AIC, which provides a referral service through its foundation. For this, please contact:

**The American Institute for Conservation of Historic and Artistic Works (AIC) and FAIC  
Conservation Services Referral System, 1717 K Street N.W. Suite 301, Washington, D.C.  
20006; Telephone: (202) 452-9545; Fax: (202) 452-9328**

## **Preserving damaged photographs**

A common question in the minds of families as they suffer through the tragic aftermath of flooding or fire and its resultant water damage is "Can I save my photos?" According to Eastman Kodak Company, there is hope if proper care is taken.

The first task is to decide if it might not be easier to replace the photos by arranging with relatives to copy their photos. Alternatively, if you have undamaged negatives, make copies of them rather than to salvage what remains of your collection.

If restoration is the method you choose there are several ways to go about this. I also am afraid to say that even under ideal conditions there inevitably will be losses. The best we can hope for is to minimize the damage and reduce the amount of loss.

Time is of the essence: the longer the period of time between the emergency and salvage, the greater the amount of permanent damage that will occur. If you have decided to salvage your photos, foremost do not let the photos dry out. They tend to stick together and when dry will probably not come apart without irreparable damage

## **Mold and Mildew**

### **Saving Moldy Photos**

Isolate moldy photos in a cool, dry location, outside if possible, with plenty of air circulation where they will not contaminate nearby items; do not return the photographs to their original location until the conditions causing the mold growth are addressed if at all possible.

Once the photo materials are removed to a less hospitable environment, the mold will become loose and powdery as the substrate dries and the mold turns dormant. It may then be gently brushed off the photographs with a very soft brush; because the mold is merely dormant, if it remains on the photos or is distributed throughout the space and onto other objects, it will grow whenever

environmental conditions are favorable again. Mold should, therefore, be removed either outdoors (outdoors is best) or into a vacuum cleaner equipped with a HEPA filter -- regular household vacuum cleaners will merely exhaust and re circulate mold back into the room. If a vacuum is used be aware that the suction can irreparably damage photos that are brittle or already show signs of deterioration

Although any direct light source can be damaging, and cause fading, brief exposure to sunlight can stop mold growth and aid drying. Exposure should not exceed 1 to 2 hours. There is some trade off here - the limited amount of sun may fade the photo somewhat but will cause the mold to go dormant. This slight amount of time exposed to the sun should cause little if any noticeable fading.

Clean the mold *only* after it is dry and inactive. Very gently wipe or brush away the mold residue.

It is always --*Safety First*-- wear rubber gloves, eye protection, an appropriate respirator and clothing you can wash in very hot water and bleach or discard. Do not proceed with any treatment if any negative health effects are observed, no matter how minor they appear.

Valuable artifacts and photographs should be handled by a professional conservator.

**M**onitor the affected photos for a few months after the mold clean-up. If there is any re-occurrence and the mold has again become active, there may be no other solution other than to copy the photograph and dispose of the moldy one.

### **Emergency Instructions for Water Damaged Photographs**

In case of flood or other water damage, the following procedures should be followed immediately after a person can get to the photographs:

- Keep them wet! Letting the photos dry and stick to each other or to their envelopes usually causes irreversible damage.
  - \* Don't let them stay wet so long they begin to disintegrate. Two or three days is about as long as they should stay wet. If they cannot be salvaged, washed, and dried in that length of time, then perhaps one should consider freezing them. However, freezing creates many new risks, such as cracking and emulsion damage from ice crystals.
  - \* Put the wet photos in clean plastic buckets of cold water. Immerse wrappers, envelopes, album pages, and all. Add 1/4 cup of Formaldehyde for every gallon of cold water. Try to keep the water temperature at 65 degrees or lower.
  - \* As quickly as time will allow begin carefully removing the water-soaked

prints, negatives, slides, etc. from the cold water, and pull them out of their wrappers. Wash them in running water (65 degrees) for 15 minutes or longer.

\* Hang the negatives and slides on a clothesline in a dust-free location to dry.

\* Air dry the prints in a dust-free area on fiberglass screens.

\* To remove the curl from the dry prints, carefully slip them (individually) between 2 pieces of acid-free paper (or other appropriate substance) and flatten them out for a day or two under heavy weight.

The following recipe was taken from Eastman Kodak pamphlet No. E- 34.

### **Recipe for Gelatin Glue**

1 tablespoon gelatin (Knox Plain Gelatin or emulsion-quality gelatin).

1/4 teaspoon ammonium hydroxide (concentrated).

1/4 teaspoon Kodak Photo-Flo solution (1:200 dilution). \*

1/4 cup warm distilled water (120 degrees F).

For thinner mixture use 1/2 cup water. \* Make up a solution of 1 part Kodak PhotoFlo solution to 200 parts distilled water, then use 1/4 teaspoon of this dilution in the recipe as given above.

Dissolve gelatin in warm water, cool, then add ammonium hydroxide and diluted PhotoFlo solution. Strain warm gelatin solution through an absorbent cotton pad or cloth.

Keeps for only two or three days at room temperature. Mix fresh or keep in refrigerator. For use, warm the gel solution slightly to liquefy. Apply with new brush or cloth. This formula is very similar to the chemistry of the gelatin layer in photographic products. Remember to avoid mixing or storing this adhesive using products containing plasticizers, metals, or other substances that might be harmful to photographs. It can be used in many ways, including the following: 1) as an adhesive for mounting prints. The mounts can later be removed by soaking. 2) To adhere fractured gelatin emulsion which has lifted from dry plates. 3) To clean and "heal" abraded gelatin print surfaces.

## Freezing photos

It is extremely important to act before the photographs have had a chance to dry or grow mold. If permitted to happen, the chances of salvaging the photographs are greatly reduced. If you find you have more immediate matters to attend to and a thorough cleaning and drying of photos will have to be put off; the best course of action would be to remove any loose dirt and debris by rinsing your materials in a tank of cold clear running water until the water overflow runs clean. Do not run water directly on them as this may cause further damage to the already softened photographic emulsions.

Place the rinsed photos in second tank of clean cold water (to prevent them from drying) and finish rinsing the rest of them. After you have completed the rinse, clean, dry, and refill the original cleaning tank (or have a third tank) with cold water. Now take the individual photos (in small manageable groups) and return them to the initial cleaning tank. Work with them submerged. Gently separate the films or prints from each other or their storage material. Do not force the separation -- you may cause further damage. Separate them as much as possible, then return them to the water bath while you start another batch repeatedly return to the photos that cannot be separated and try again to separate them. If no progress is noticed on those that have clumped together. Treat them as individual photos and freeze them as you would an individual photo.

Remove the photos from this last soaking, one at a time if possible (or clump if necessary) and be sure to only handle the photo by the edges. Let the excess water drip off. Then place the item in a plastic bag (freezer bag if possible) and place them in a container with like sized photos and stick them in the freezer.

If you have photo albums, duplicate the procedure used with the photos to be able to remove your photos from it. If they can be removed, treat them the same as you did the individual photos. If you have any difficulty separating, the pages or photos from the pages leave them till later. After rinsing in clear cold water let the excess water drip off and place them in a suitably sized container using wax paper or butcher paper as a separator between the sides of the container and other albums, if you have more than one. Stand them vertically on their spines, pack the items just tight enough so that they remain upright and move them to the freezer.

If you have not yet, it would be a good time to talk to a conservator to decide a course of action and your insurance agent to see if drying and restoring the photos would be covered under your homeowners or flood policy.

This procedure has given you time to calmly sort through the facts and narrow down your options as to how you will continue your salvage project. You may

wish to only have a handful of photos professionally restored i.e. the ones with the greatest sentimental value or the ones which are family heirlooms. You have now bought yourself some time so that you can review the items you have frozen and decide which items you really want to save and which items you can discard.

## **Drying frozen photos**

A couple of resources to have available would be a dehumidifier if you are going to work in the basement or a small room, a clothes line (to hang film or pictures), nylon or plastic window screening, rolls of plain white non-printed paper towel rolls (a generic brand is fine), photo blotting paper, or just plain white blotting paper and tongs, used to develop film may be desirable - less hands on the photos.

If you will be working in a room open the windows and run a humidifier to lower the humidity as the photos are thawing and drying out. Be sure to cover the floor beneath the photos to catch thawing water and residue. Keep the room as cool (temperatures -- below 68° F -- is recommended) as possible, it will extend the drying time but help reduce the chances of mold. Expect a possible 2 to 3 day drying time.

If you are going to use a clothes line and plastic clothespins string it up now. If you want to use the plastic window screening cloth, as I prefer, use 2 cheap saw horses and staple or nail a stretched piece between them. Lay pieces of blotter or paper towel (cut at least an inch larger than the photos) and put one photo Face Up on each piece.

Run a fan to keep the air circulating above or below the photos but not directly on the photos.

As the blotter or paper towels get wet remove and replace them with dry ones, being sure not to touch the image side - use the tongs (preferred) or fingers and handle from the edges only.

After they've dried, the photos may curl. To uncurl them, you can rinse each curled photo carefully in a photo tray or dampen the back, then place them between clean white blotters and apply weight on top them until they are dry. This should help them resume their shape.

## Salvaging film and transparencies

When cleaning from floodwater replace the dirty water with clean water, slowly and gently separate the layers of film. If negatives or transparencies require cleaning a professional film, cleaning solution should be the only material used. Use cotton material only for application of the solution, never use paper or material of non-pure cotton material.

If a complete washing of negatives is required prepare a mildwater solvent film cleaning solution and gently and slowly rinse in the solution using a clean chamois to squeegee the film. Soak the film in cool water with a "Photo Flow" additive, Squeegee again and hang to dry from its edge draining the length of the film. Warm water will soften the emulsion and increase the odds of further damage, avoid this.

The same procedure can be used for transparencies but be sure slides are first removed from their mounts if possible. The only instance you should feel required to do these procedures is in the event that the material became damaged and recovered from a flood or contaminated water.

Use of a photo stabilizer on color negatives and slides made on Kodak Ektachrome film will facilitate cleaner and provide more uniform drying. PhotoFlo Solution and Stabilizers are available through photographic dealers and pro photo finishing labs.

After the salvage and all efforts to salvage the materials, you can consider additional restoration. Reprinting negatives or making copies of prints might be the first step. Further restoration may be possible through retouching and then recopying. Today, digital imaging can offer significant benefits in restoration.

We highly recommend that if you find yourself in this unfortunate predicament that you contact "Photo ER" for further instructions or shipping information so our professionals can salvage your material.

## FAQ

PLEASE BE ADVISED that any treatments you perform on an item, you do at your own risk. DO NOT attempt to treat or repair a valuable or very fragile item; in that case; do seek the services of a professional conservator.

***1. I have several old letters and certificates that I want to preserve. What can I do?***

The key to preserving your paper documents is to keep them in an acid-free, humidity-controlled environment. Your paper documents need protection from a variety of elements which contribute to their deterioration--namely: light, heat, humidity, acids in papers, plastics, and adhesives, other objects, pollutants, and pests.

You can store and preserve your paper documents in a few different ways. You can organize and file your documents in acid-free folders, and keep them in an acid-free box. Alternatively you could place your documents in archival safe plastic sleeves and keep them in an album or binder. Another popular alternative is to encapsulate a document between two sheets of polyester film.

Regardless of how you choose to store your documents, **NEVER STORE THEM IN AN ATTIC OR BASEMENT.** Extreme temperature and humidity changes cause rapid deterioration. Store your items in a room that is comfortable to you, with stable temperature and humidity.

***2. Can I store my documents in those plastic protector sheets that fit 3-ring binders?***

Plastic enclosures are safe for documents **ONLY** if they are made of polyester, polypropylene, or polyethylene. Other plastics are not chemically stable and will release damaging acids over time. Especially dangerous is PVC (polyvinylchloride) commonly found in store-bought<sup>o</sup> binders; it emits hydrochloric acid over time.

***3. Is there any problem with putting more than one document in the same plastic sleeve?***

No, but documents should be interleaved with acid-free paper to prevent acid migration from one piece of material to another. Acid-free paper that is buffered will also counteract the formation of more acids in the future.

***4. Is it okay to laminate a document?***

Lamination is not considered a safe conservation technique because the process may potentially damage a document due to high heat and pressure during application. Moreover, the laminating materials themselves may be chemically unstable and contribute even more to the deterioration of the document. Lamination also violates a cardinal rule of conservation, and that is to only apply treatments that do not alter the item and which can be reversed.

***5. I have some old newspapers that I would like to preserve. What's the best way to do it?***



Since newspapers are made of highly acidic paper and deteriorate so quickly, you should always photocopy the information you want from them onto acid-free paper. You can then store the original paper in an acid-free box, or mount clippings in an archival scrapbook. Clippings could also be stored in acid-free file folders, interleaved with acid-free paper. If you want to frame the clipping, you should frame the acid-free copy rather than the original clipping.

**6. What about the ink used in copiers and printers? Is there an archival ink that can be used as an alternative?**

The inks used in photocopiers and printers are moderately durable. To date there is no alternative ink available for use in a copier or printer. It is a good rule of thumb to photocopy any document you wish to preserve onto acid-free paper. If you then keep the original and copy away from light, heat, humidity, etc. the document should last for several generations. Incidentally, there are archival inks for use on paper: Pigma ink comes in a pen, and Actinic ink comes bottled for use with a quill pen or in an ink pad.

**7. I have an old wedding certificate that has been stored rolled up for many years. It is quite brittle. How can I safely unroll and flatten it?**

Often when paper objects have been stored rolled for many years, they become quite brittle. In order to safely unroll your certificate, moisture needs to be restored to the document (known as humidification). Placing your document in a humid environment for several hours should make it more flexible, allowing you to carefully unroll and flatten it. Watch out for ink on the document that will possibly bleed (do not humidify it if the ink will run). You may have to experiment with the level of humidity and the amount of time you leave the document exposed; monitor to make sure it does not get saturated. Attempt to carefully unroll the document while it is still humid; do not proceed if it resists or begins to crack or tear. You could then flatten it by placing the document between two pieces of blotting paper, and then place a heavy object on top for a few days.

**8. I have a suitcase full of old family photographs. Some of them are fading, and I would really like to preserve them. Any suggestions?**

The same rules, which apply for the safe storage of paper documents generally, apply to photos. Again, there are a number of options for preserving your photos. If you prefer an album, archival albums have acid-free components such as scrapbook style pages, picture-pocket pages made of one of the safe plastics, etc. Store-bought albums with "magnetic" pages are typically highly acidic and dangerous to photos. Besides albums, there are acid-free boxes made to accommodate between 500 and 1000 prints. These boxes come with acid-free envelopes and sleeves for negatives. Finally, photographs can be encapsulated in polyester film just like paper documents.

**9. What is the best way to store negatives? Should color negatives be stored the same manner as black and white?**

There are a variety of storage options available. The best choice depends on the number of negatives and one's preference. Negatives can be stored in acid-free envelopes--paper or plastic--and placed in an acid-free box made for negatives and prints. There are also clear plastic sheets which hold various size negatives which can then be put in a binder.

The American National Standards Institute (ANSI) recommends non-buffered storage for color prints and negatives, and buffered storage materials for black and white prints and negatives. Nitrate film should be stored in buffered materials.

**10. My grandmother's photo collection was glued on that old black paper that photo albums were made of. How can I get the photos out of the album?**

The safest and recommended approach is to carefully try to lift the photos off of the album page with a tool called a microspatula or a small spatula. Slip the microspatula under the edge of the photo, and carefully move it back and forth. The ease with which the photos come up may vary depending on the humidity level. Dry conditions may make prints and backing brittle, easier to lift. Or humid conditions may soften the adhesive and ease removal. Experiment with it, but DO NOT force the photos so that they tear.

If you cannot lift them, cut away the black paper around the photo. If photos are on both sides of the page and you cannot cut around, interleave the pages of the album with acid-free paper and store the album in an acid-free box.

## **Shipping damaged photographs**

If you decide to send your photograph by Mail, using these guide lines will help improve the likelihood that your photo will arrive safely.

Please fill out the information on the "Ordering" page of our web site. You can access this by clicking on the "[Ordering](#)" button or the "[Get Emergency Treatment Now](#)" link from any where on the site. This extra step will allow us to watch for the arrival of the photos and have a way to contact you once we have an estimate on the project.

Step #1 Place your photo in a baggie between 2 pieces of cardboard (cut slightly larger than the image) and tape the edges of the cardboard.

Step #2 Print your name and return address on the cardboard covering just in case it becomes separated from the outer envelope.

Step #3 Use a Photo Mailer or a box. Make sure you include your name, phone number, address, e-mail address and any special instructions you would like carried out. (Please print off our form to do this). Put this information in the Mailer.

Step #4 Make sure you seal the envelope securely and write, "Photographs DO NOT BEND" on the cover.

Step # 5 Write our address on the front (Shown below) and your name and address on the back.

Step # 6 Mail using "Priority Mail", Fed Ex, UPS or any carrier you prefer. These steps all help to expedite your order.

**Photo-ER.com**

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