

USING RECORD ALUM HARDENING

Unhardened emulsions are easily scratched when wet, and absorb moisture when dry. Alum hardening in the fixer is one method of toughening emulsions to be more resistant to abrasion and water absorption. If used correctly, it will increase archival permanence by protecting emulsions.

All B&W Films

Require alum hardening in the fixer.

Resin-Coated Prints

Require alum hardening to prevent scratching, and for a hard gloss on glossy finish papers.

Fiber-Based Prints

Should only be hardened if prints are to be dried on hot drums, or if emulsion is very soft. Fiber prints are hardened in manufacture, and by heat, light, and air, so additional hardening may be harmful.

ARCHIVAL PERMANENCE

Alum Hardening will promote archival permanence if correctly timed and well-washed. Excess hardening will make prints brittle, curly and difficult to wash and tone to archival specifications. Treatment with ARCHIVE Fixer Remover will insure thorough washing and even toning (see label).

Whenever a hardening fixer is used, BLOCK Stop Bath *working solution* must be used as directed before fixing to provide the correct acid environment.

Alum-hardened films and prints cannot be thoroughly washed with water alone. Use ARCHIVE Fixer Remover as directed on label when washing.

One liter will convert 66.6 liters of 1:9 RECORD Print Fixer *working solution*, or 33.3 liters of 2.8 RECORD Film Fixer *working solution*.

HOW TO MIX

Add RECORD Alum Hardening Converter *concentrate* to RECORD Speed Fixer *working solutions* in a ratio of 15 ml Converter to every 100 ml Fixer concentrate in the working solution.

Choose the desired *working solution* from the examples below.

FILM FIXER: Dilute RECORD Speed Fixer *concentrate* 2:8 with water. To Each liter of diluted fixer, add 30ml of RECORD Alum Hardening Converter.

For Example: 200ml RECORD Speed Fixer *Concentrate*
800ml Water
+ 30ml RECORD Alum Hardening *Concentrate*
1030ml Film Fixer *Working Solution*

PRINT FIXER: Dilute RECORD Speed Fixer *concentrate* 1:9 with water. To Each liter of diluted fixer, add 15ml of RECORD Alum Hardening Converter.

For Example: 100ml RECORD Speed Fixer *Concentrate*
900ml Water
+ 15ml RECORD Alum Hardening *Concentrate*
1015ml Print Fixer *Working Solution*

HOW TO USE

FILM & PRINT Fix for 1-3 minutes as directed on RECORD Speed Fixer label. Hardening increases with immersion time; to reduce hardening, shorten immersion time. To mix and use a hardening stop bath, visit our website at www.sprintsyste.ms.com

FILM FIXER Dilute RECORD Speed Fixer *concentrate* 2:8 with water. To each liter of diluted fixer, add 30ml Record Alum Hardening Converter.

PRINT FIXER Dilute RECORD Speed Fixer *concentrate* 1:9 with water. To each liter of diluted fixer, add 15ml RECORD Alum Hardening Converter.

COMPATIBILITY

RECORD Alum Hardening Converter is compatible with SPRINT products only. Do not mix with other brands of fixer. Do not mix other brands of hardener with SPRINT products. Before toning or spot coloring, hardened prints must be treated with ARCHIVE Fixer Remover and washed, as directed on ARCHIVE label.

CAPACITY & SHELF LIFE

RECORD Alum hardening Converter does not change the capacity of RECORD Speed Fixer.

Record Alum Hardening Converter, stored with or without air in the container, has a shelf life of at least 2 years. Working solutions of RECORD Speed Fixer will have one-half their indicated shelf life when RECORD Alum Hardening Converter is added.

DANGER: CAUSES PERMANENT EYE DAMAGE. BREATHING VAPORS OR MIST MAY CAUSE ASTHMA-LIKE SYMPTOMS. MAY BE HARMFUL IF SWALLOWED.

PRECAUTIONS

Do not get in eyes. Avoid breathing vapor or mist and contact with skin or clothing. Wear chemical resistant gloves and apron (Neoprene, butyl rubber, Saranex, Teflon) and chemical goggles. Ensure darkroom is ventilated with an exhaust fan to remove vapors. Wash thoroughly after handling, and before eating, drinking or smoking.

HANDLING, STORAGE AND DISPOSAL

Keep Container closed when not in use. Store away from caustics, oxidizers, and incompatible materials, in cool, well-ventilated area. Small spills may be flushed to sewers with plenty of water. Do not reuse container.

FIRST AID

For Eye Contact:

Immediately rinse eyes with water. Remove any contact lenses, and continue flushing eyes with running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Get immediate medical attention.

For Skin Contact:

Wash affected areas with plenty of water, and soap if available, for several minutes. Seek medical attention if irritation develops and persists.

For Inhalation:

Remove From area to fresh air. If not breathing, give artificial respiration. Get immediate medical attention. If breathing is difficult, give oxygen.

For Ingestion:

DO NOT induce vomiting. Give victim a glass of water. Get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.

KEEP OUT OF REACH OF CHILDREN

For more information, read the **Material Safety Data Sheet** which may be obtained from your supplier or on the web at www.sprintsyste.ms.com.

Conforms to ASTM D 4236.

EMERGENCY Telephone Number: ChemTel 1-800-255-3924, or contact a physician or your local Poison Control Center.

LIMITED WARRANTY

Sprint Systems will not be responsible for any harmful effects caused by swallowing or inhaling the contents of any Sprint chemical, or by contact of Sprint chemicals with skin or eyes. Warranty limited to replacement of Sprint products if defective in manufacture, labeling or packaging.

SPRINT[®] RECORD[™]

BRAND



ALUM HARDENING CONVERTER

CONVERTS RECORD AND BLOCK INTO HARDENING SOLUTIONS FOR FILMS AND PRINTS
FOR FILM ADD 30 ML / LITER OF 2:8 FIXER *or* FOR PRINTS ADD 15 ML / LITER OF 1:9 FIXER