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The Formula Manual

by: Norman Stark

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the formula manual

The Fourth Edition

Stark Research Associates

Comments on the best-selling Formula Books:

"One of the most exciting money savers [illegible] recently [illegible] is a book of recipes for almost everything except food. For the first time, as far as I can find out, formulas for making your own beauty and personal care products as well as automotive, home, garden and animal maintenance products have been collected under one cover." — Washington Post syndicated Columnist

"Many of the cookbook-style formulas can be made by anyone and such jobs are fun to do about everyone [illegible]." — Consumer

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"[illegible] family activities solely under supervision they could pay for themselves with the time spent changed to leisure time." — SCIENTIFIC AMERICAN

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The Formula Manual can save you hundreds of dollars each year. With its easy and economical formulas you can prepare at home everything from after-shave lotion to ant repellent, from charcoal starter to dry-cleaning fluid, from mascara to ink remover.

All formulas in the **Manual** have been authenticated and tested for safety in the Stark Research Associates' laboratories in Tucson, Arizona.

$12.95

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THE FORMULA MANUAL

Fourth Edition

by
STARK RESEARCH ASSOCIATES

ANDREWS AND McMEEL, INC.
A Universal Press Syndicate Company
KANSAS CITY • NEW YORK • WASHINGTON

CAUTION TO READERS

In writing *The Formula Manual,* I have excluded hazardous materials wherever possible, but in some cases they must be included to make a product effective. In making a formula, the reader should observe any note of caution added at the end of the recipe. In addition, the reader should consult Appendix 8 *(Sources of Supply and Index of Chemicals)* for the cautions specific to an individual ingredient.

We all know that materials such as waxes and oils will burn, so I have concentrated the warnings to materials that may be less familiar. But remember, *all* chemicals, including ordinary table salt, should be kept out of the reach of children, carefully labeled, and used only for the purpose they are intended.

The value and safety to you of the products in this book depend upon your careful use of the materials shown in the proportions given, as well as your observing any special cautions appearing in the book or with the materials. Neither I nor the publisher can be responsible for the efficacy of the products or your own safety if you do not follow these instructions and precautions.

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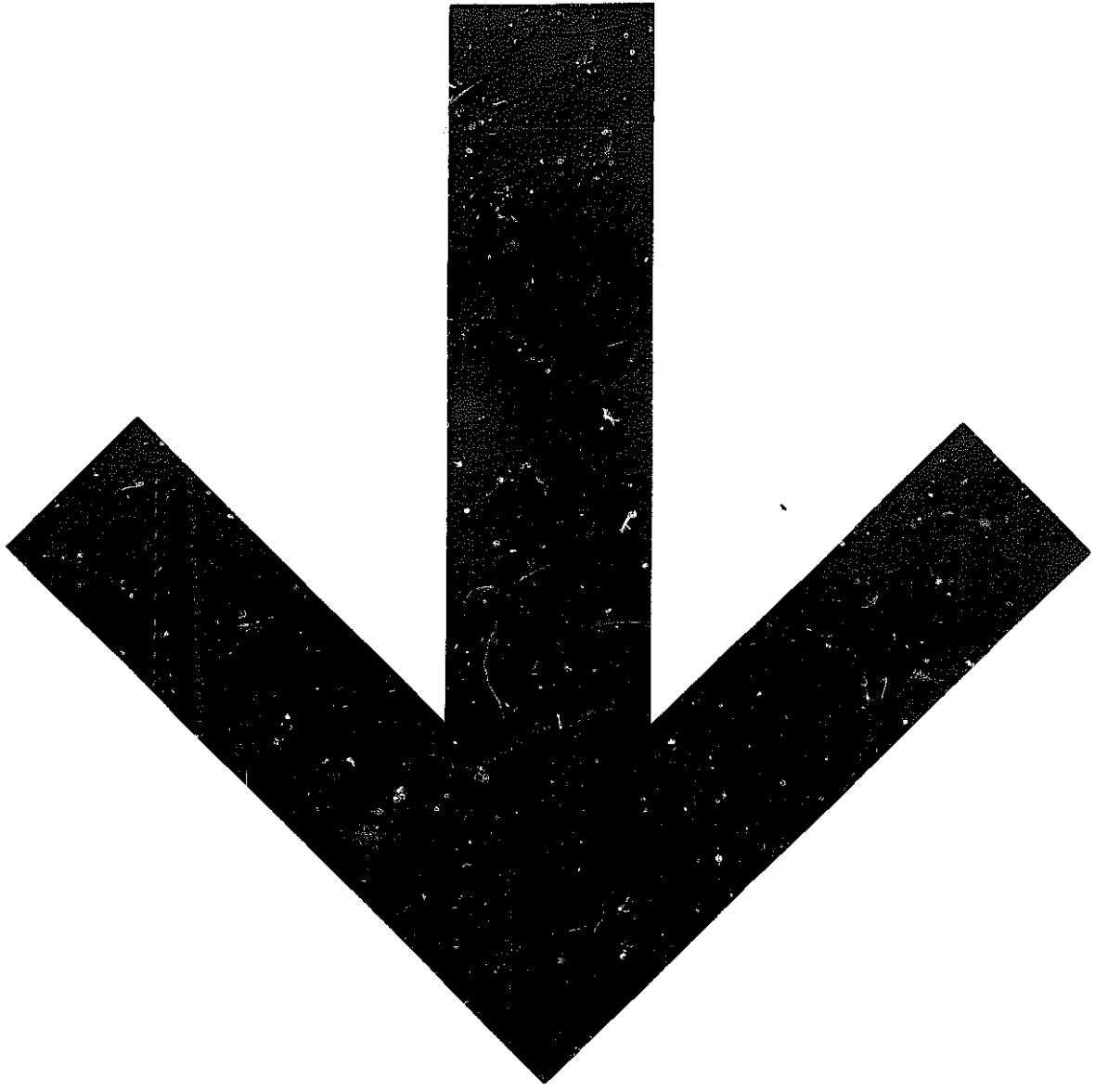


CONTENTS

FOREWORD vii
INTRODUCTION ix
1 AROUND THE HOUSE 1
2 FLOORS 19
3 CLEANING AND POLISHING 27
4 LAUNDRY 51
5 PERSONAL CARE 59
6 KITCHEN 119
7 HOME WORKSHOP 143
8 AUTOMOTIVE-MECHANICAL 165
9 GARDEN-AGRICULTURAL 179
10 ANIMAL CARE 197
11 SPORTS AND CAMPING 209
Appendix 1 pH Preferences of Some Plants 225
Appendix 2 Types of Mixing 231
Appendix 3 Some Scientific Principles 233
Appendix 4 Denatured Alcohol 235
Appendix 5 Grades of Material 241
Appendix 6 Formulating Tips and Procedures 243
Appendix 7 Measurement Conversion Tables 249
Appendix 8 Sources of Supply and Index of Chemicals 253
Index 283

"All things are poisons . . . " said the sixteenth century scientist Paracelsus. "Only the dose decides that a thing is not poisonous."

Basically, all chemicals are potentially dangerous when improperly used. A good example that can be cited is sodium chloride, or common table salt. This chemical can be seriously dangerous when taken in excess. However, I doubt that few of us, unless restricted by medical diet, have eaten many meals without the use of the mineral. It is so essential in our physiological makeup that the human body cannot function long when there is an improper balance of salt in the system.

Hazardous materials have been excluded in this manual whenever possible, but in many cases they must be included to make a product effective. In preparing any of these formulas, the reader should always observe any note of caution added at the end of the recipe. Warnings pertaining to chemicals that may be dangerous are repeated in Appendix 8, *Sources of Supply and Index of Chemicals.* The reader should consult this appendix for the cautions pertinent to that ingredient before formulating any product to be sure of any hazardous properties.

To the best of our knowledge, no chemical has been recommended in these formulas which is banned by any of the various state or federal agencies. However, there is constant screening and monitoring of chemicals that are used in today's society and the approved list is constantly subject to change. If there is doubt concerning a particular compound, it is suggested that you contact your nearest Environmental Protection Agency or Federal Drug Administration office to confer with them on the subject.

We cannot overemphasize the importance of proper labeling of all formulas prepared with the date of preparation—the ingredients contained in them, and cautions pertaining to the ingredients. Labels have been provided for this purpose, so mix up the formula for Paste and use labels on all your finished products.

The value and safety to you or the user of your products from the formulas depend upon your careful use of the materials in the given proportions, as well as your observing the precautions noted throughout the manual. Neither I nor the publisher can be responsible for the efficacy of the products or your own safety. Because we have no control over the reader's procedures and methods of formulating, we must disclaim any responsibility for the use of this manual.

INTRODUCTION/ix

This new fourth edition of *The Formula Manual* is an extension of the first, second, and third editions that found wide acceptance among teachers and students throughout the United States and in foreign countries.

In the past three years, thousands of teachers both here and abroad, from elementary to college levels, have found *The Formula Manual* to be extremely helpful in courses ranging from elementary science to home economics, from basic chemistry to a continuing education course called "Consumer Chemistry," where it was used as the main text. By enabling students to make compounds that they are already familiar with around the home and ones that they can actually use, many basic concepts of chemistry are given immediacy, much of the mystery is removed from one level of their existence, and the way is opened to the study and contemplation of much more interesting and profound scientific mysteries if their inclination should lead there.

Aside from its use as a textbook, *The Formula Manual* has found its way into many kitchens and home workshops. There, people who are living on fixed incomes or are interested in making their own products as a hobby, have found that it has enabled them to save hundreds of dollars. We are, of course, delighted that the book has found such wide appeal and application.

The fourth edition has been expanded to include over 500 formulas. And, as in the third edition, the formulas are grouped into categories for ease in locating them. In addition to the new formulas, a number of existing ones have been modified as a result of improvements learned from the research and testing programs of past years. The appendices have been retained with additions and corrections being made where needed.

As an added help to those who teach the elementary grades, we have selected a group of formulas that we feel are appropriate for this age level; these are identified with the letter E following the formula in the index.

The Formula Manual is authoritative. Stark Research Corp. has maintained a full-scale research, development, and testing facility on the outskirts of Tucson, Arizona. Here new formulas have been developed and tested and existing ones have been updated and modified. The results of this effort have then been incorporated in later editions.

We have included many of the suggestions received from users of the first three

editions and have worked hard to improve this one, but of course we realize there may be some imperfections in the formulas. Suggestions or criticisms that our readers might have for improving future editions are solicited.

A change in our method of operation has been made beginning with this fourth edition of *The Formula Manual.* The first, second, and third editions were published and sold by Stark Research Corp. Now, however, we find that the administrative duties inherent to doing our own publishing and selling could possibly detract from research time and the development of proposed collateral teaching materials. Accordingly, we arranged with Andrews & McMeel Publishers to take over the publishing and promoting of *The Formula Manual.*

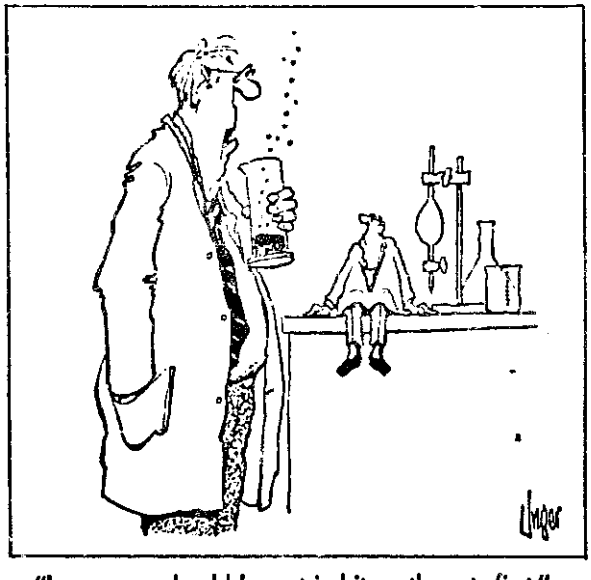
The Formula Book is a condensed version of *The Formula Manual* and contains only a small portion of the formulas that are in this textbook. *The Formula Book* is intended to be a consumer edition—not a teaching aid. First published in November 1975, by Andrews & McMeel Inc., it became an immediate "best-seller." We asked them to publish *The Formula Manual,* as well, and they agreed.

Stark Research Corp.

The usage of abbreviations is so variable that no doubt our choice will not please everyone. We hope, at best, that our choices will be universally intelligible. They are:

teaspoon—t.	gallon—gal.
tablespoon—T.	pound—lb.
cup—C.	gram—g.
pint—pt.	kilogram—kg.
quart—qt.	milliliter—ml.
	liter—L.

Other less common measurements are spelled in full and all are discussed in either Appendix 6 or 7.



"I guess we should have tried it on the rats first."

BOOK COVER COATING

Ingredients:	White Shellac	1 pt.	474 ml.
	Denatured Alcohol	1 pt.	474 ml.

Mixing: Stir together white shellac and denatured alcohol.

Use: For protection against wear and mildew, apply to book covers with a fine brush. Be careful not to get any on the edges of the pages.

CAUTIONS: Denatured alcohol may be toxic if taken internally. Flammable.

Notes:

CANE CHAIR SEAT TIGHTENER

Ingredients:	White Distilled Vinegar	3 C.	711 ml.
	Water	1 C.	237 ml.
	Powder Alum	2 T.	28 g.

Mixing: Mix vinegar and water by stirring and stir in powdered alum.

Use: Paint a liberal amount of this solution on cane chair seats and allow to dry. It is very important that the drying is done as quickly as possible to effect the greatest degree of shrinkage. So it is advisable that the chair be placed in direct sunlight if possible.

Notes:

CAST IRON CEMENT

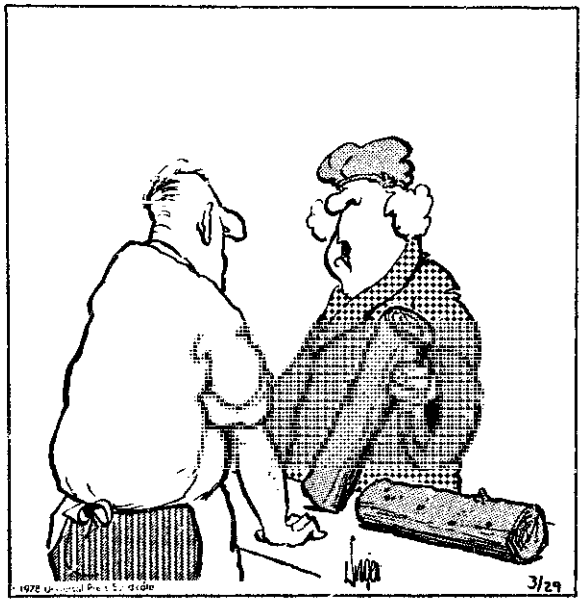
Ingredients:	Iron Filings	9 oz.	252 g.
	Ammonium Chloride	1/2 oz.	14 g.
	Powdered Sulfur	1/4 oz.	7 g.

Mixing: Dry mix iron filings, ammonium chloride, and powdered sulfur.

Use: Add water to form a paste the consistency you desire. Apply to cracks in cast iron and allow to harden.

CAUTIONS: Ammonium chloride is highly toxic by inhalation and ingestion and a strong irritant to tissue. If it comes in contact with skin, flush freely with clear water for prolonged periods of time.

Notes:



"These fireplace logs are just pieces of a tree. Haven't you got any of the real plastic ones?"

CEMENT WATERPROOFING

Ingredients:	Ammonium Stearate	2-1/2 lb.	1.1 kg.
	Water	8 gal.	30.0 L.

Mixing: Mix ammonium stearate into water.

Use: Apply to any concrete or masonry surface with a large brush, such as a whitewash brush. Two or three coats are desirable.

Notes:

CHARCOAL STARTER

Ingredients:	Mineral Oil	2-3/4 C.	651 ml.
	Kerosene	1/4 C.	59 ml.

Mixing: Mix mineral oil and kerosene together. Store in air tight containers.

Use: Pour over charcoal, saturating well, and ignite.

CAUTIONS: Kerosene is toxic and flammable. Use with caution.

Notes:

CHEMICAL FLOWER GARDEN

Ingredients:	A Porous Brick		
	A Shallow Pan or Transparent Bowl		
	Sodium Chloride (Salt)	12 T.	168 g.
	Water	12 T.	180 ml.
	Laundry Bluing	12 T.	180 ml.
	Household Ammonia	2 T.	30 ml.
	Red, Blue or Green Ink	8 Drops	1 ml.

Mixing: Mix the salt, water, laundry bluing and ammonium together. Add your choice of ink colors in spots on top of the brick.

Use: Place brick in the pan or bowl and fill 2-inches deep with the solution. Capillary action will cause the solution to migrate to the surface of brick where colored crystals will grow.

CAUTIONS: Avoid vapors of household ammonia.

Notes:

DISINFECTANT FOR GENERAL USE

Ingredients:	Cresylic Acid	1-1/4 C.	296 ml.
	Oleic Acid	3 T.	44 ml.
	Caustic Soda	1 t.	4 g.
	Water	1/2 C.	118 ml.
	Sulphonated Castor Oil	2/3 C.	158 ml.

Mixing: Warm cresylic acid but do not boil, and stir in oleic acid. Separately, dissolve the caustic soda into water. Mix the two solutions together and add sulphonated castor oil, mixing thoroughly.

Use: Use either full strength or diluted with water to the strength you desire. This can be used in kitchen, bathroom, animal living quarters, or wherever desired.

CAUTIONS: Caustic soda heats on contact with water and can cause severe burns to skin. Handle with care. Store in airtight container. Cresylic acid is toxic and can be absorbed through skin; use gloves in formulating disinfectant.

Notes:

DISINFECTANT FOR SHOES

Ingredients:	Formaldehyde	1 T.	15 ml.
	Water	1/4 C.	59 ml.

Mixing: Simply stir formaldehyde into water.

Use: With a cotton ball or piece of absorbant cloth, swab out inside of shoes three times, allowing to dry between each application.

CAUTIONS: Formaldehyde is highly toxic by inhalation, ingestion, and skin contact. Handle with care, do not breathe fumes, and if splashed accidentally on skin, flush with plenty of clear water.

Notes:

DRAIN CLEANER

Ingredients:	Sodium Bicarbonate	1 C.	227 g.
	Sodium Chloride	1 C.	227 g.
	Cream of Tartar	1/4 C.	57 g.

Mixing: Blend the three powders together with a wooden fork or spoon. Store in an airtight container.

Use: Pour 1/4 cup (57 g.) of mixture in drain and add 1 cup (237 ml.) boiling water. After a minute, flush with cold water. This will not open a clogged drain, but weekly use will keep drains free. Note the bubbling action caused by a base neutralizing an acid.

Notes:

DRAIN OPENER

Ingredients:	Caustic Soda	3/4 C.	170 g.
	Calcium Carbonate	1 C.	227 g.
	Caustic Potash	3 C.	681 g.

Mixing: Blend ingredients together with wooden fork or spoon, and store in an airtight container.

Use: Put 2 tablespoons (28 g.) of mixture in drain, followed by 1 cup (237 ml.) boiling water. Let stand for 30 minutes, then flush with cold water.

CAUTIONS: This is a **highly caustic mixture**, do not allow contact with skin. If it does get on skin, or some of the drain water splashes on hands or arms, flush with plenty of clear water. Caustic soda and caustic potash both heat on contact with water and can cause severe burns to skin. Handle with care, wear rubber gloves. Store in airtight container.

Notes:

FABRIC FLAMEPROOFING COMPOUND

Ingredients:	Boric Acid	3/4 lb.	340 g.
	Borax	1 lb.	454 g.
	Water	2 gal.	8 L.

Mixing: Mix boric acid, borax, and water.

Use: Immerse fabric in mixture and thoroughly saturate. Spin dry and complete drying. This is a water-soluble solution so it must be treated every time the material is washed.

Notes:

FIBERGLASS FILTER TREATMENT

Ingredients:	Paraffin Oil	5 C.	1.2 L.
	Stearic Acid	2 C.	454.0 g.
	Bentonite	1-1/2 C.	340.0 g.
	Triethanolamine	3/4 C.	177.0 ml.
	Water	2-1/2 gal.	10.0 L.

Mixing: Mix paraffin oil, stearic acid, and bentonite, stirring well. Separately mix triethanolamine and water, then combine the two mixtures, stirring until a cloudy emulsion forms.

Use: If you have a plain, untreated fiberglass filter, spray this on it before using. This mixture greatly improves its dust-catching ability. If not used immediately, stir well before using.

CAUTIONS: Triethanolamine may be somewhat irritating to skin and mucous membranes.

Notes:

FILTER CLEANING COMPOUND

Ingredients:	Sodium Metasilicate	1 t.	4 g.
	Detergent, liquid	1 t.	5 ml.
	Water	1 qt.	1 L.

Mixing: Mix sodium metasilicate and liquid detergent into water.

Use: Brush as needed onto wet filter and hose off with a strong stream of water. Dry and reinstall.

Notes:

FIRE EXTINGUISHING LIQUID

Ingredients:	Sodium Carbonate	2 C.	454.0 g.
	Alum	1 C.	227.0 g.
	Borax	3/4 C.	170.0 g.
	Potassium Carbonate (Potash)	1/4 C.	57.0 g.
	Sodium Silicate	3 pts.	1.4 L.
	Water	1 gal.	3.8 L.

Mixing: Mix sodium carbonate, alum, borax, and potassium carbonate into the sodium silicate. Use 3 cups (681 g.) of the resulting mixture in 1 gallon (3.8 L.) of water.

Use: Use in a coarse spray or sprinkler can, directing the spray at the base of the fire first to contain it. Then work gradually until the fire is thoroughly extinguished and all sparks are out.

CAUTIONS: Potassium carbonate (potash) is toxic if taken internally. Sodium silicate may be irritating and caustic to skin and mucous membranes.

Notes:

FIRE EXTINGUISHING POWDER

Ingredients:	Fine Silica Sand (Mason Sand)	6 lb.	2 7 kg.
	Sodium Bicarbonate	2 lb.	900.0 g.

Mixing: Stir silica sand and sodium bicarbonate together.

Use: Sprinkle directly on small fires as needed.

Notes:

FIREPLACE FLUE SOOT REMOVER

Ingredients:	Sodium Chloride (Salt)	1 C.	227 g.
	Zinc Oxide Powder	1 C.	227 g.

Mixing: Mix together with a wooden fork or spoon the sodium chloride and zinc oxide and store in an airtight container.

Use: Sprinkle 1 cup (227 g.) on a hot fire, repeat in a few minutes.

CAUTIONS: Zinc oxide is highly poisonous if taken internally.

Notes:

FIREPLACE STARTER

Ingredients:	Sawdust	5 lb.	2.25 kg.
	Fuel Oil or Auto Crankcase Oil	1 qt.	1.00 L.

Mixing: Mix the oil into the sawdust slowly and thoroughly, allowing the sawdust to completely absorb the oil. Store in an airtight can.

Use: Sprinkle a small amount on and around fireplace logs and ignite.

CAUTIONS: Fuel oil is flammable.

Notes:

FIREPROOFING FOR PAPER

Ingredients:	Ammonium Sulfate	1 C.	227 g.
	Boric Acid	6 T.	84 g.
	Borax	4 T.	56 g.
	Water	3 C.	711 ml.

Mixing: Dissolve ingredients in water, mixing well.

Use: Paper to be protected may be dipped in solution, or it may be brushed on specific areas to be protected. Use several coats, allowing each one to dry thoroughly before applying the next.

Notes:

FIREPROOFING SYNTHETIC FABRICS

Ingredients:	Boric Acid	1 C.	227.0 g.
	Water	1 gal.	3.8 L.

Mixing: Dissolve boric acid in water.

Use: Immerse fabric in mixture, allow to soak, wring out, and hang up to dry. Retreat fabric after each laundering. This may be done by adding boric acid to the final rinse cycle of the washing machine.

Notes:

FIREPROOFING TEXTILES

Ingredients:	Ammonium Phosphate	1/2 C.	113.0 g.
	Ammonium Chloride	1 C.	227.0 g.
	Water	3 pt.	1.4 L.

Mixing: Stir ammonium phosphate and ammonium chloride into water.

Use: Soak cloth (tents, banners, or other textiles) in solution for a few minutes, wring out, and hang up to dry. Cloth must be retreated after each exposure to water.

Notes:

FIREPROOFING THE CHRISTMAS TREE

Ingredients:	Ammonium Sulfate	1 C.	227.0 g.
	Boric Acid	1/2 C.	113.0 g.
	Borax	2 T.	28.0 g.
	Water	1 gal.	3.8 L.

Mixing: Mix ammonium sulfate, boric acid, and borax into water.

Use: Spray the tree with this solution, and use it also to fill the cup of the tree stand.

Notes:

FIREPROOFING FOR WOOD

Ingredients:	Zinc Chloride	1/2 C.	113 g.
	Ferric Chloride	1/4 C.	57 g.
	Boric Acid	3 T.	42 g.
	Ammonium Phosphate	3 T.	42 g.
	Water	2 qt.	2 L.

Mixing: Stir chemicals into water, mixing well.

Use: Spray or paint on areas to be protected. Use three or four coats for best results.

CAUTIONS: Ferric chloride is slightly toxic.

Notes:

FIREWOOD SUBSTITUTE

Ingredients: Old Newspapers
Library Paste
Broomstick–about 36" long
Masking Tape or Rubber Bands

Making: Separate a stack of newspapers into single sheets, leaving them folded in the middle to the regular size. Coat the broomstick with silicone emulsion, or a heavy coat of wax or vegetable oil. Dab spots of paste on the top of the first sheet of newsprint and roll it around the stick. Using just enough paste to hold it all together, continue in the same way until the roll is about 4 inches in diameter. Then secure the roll with tape or rubber bands until the paste is dry. When dry, remove the stick from the center and you have a newspaper log that will burn quite well in the fireplace. If the paste is too thick, thin it with water so that it will brush on easily. (The formula for Library Paste can be found later in this section.)

Use: Burn as logs in the fireplace.

Notes:

FUEL OIL IMPROVER

Ingredients:	Naphthalene	3 qt.	2.8 L.
	Anthracene	1-1/4 C.	296.0 ml.

Mixing: Mix the naphthalene into the anthracene, stirring well.

Use: Add to fuel at the rate of 2-1/2 cups (592 ml.) per 100 gallons (380 L.). This will help prevent soot and gum deposits on the burners, keeping them clean and efficient.

CAUTIONS: Anthracene is hazardous–it is toxic and an irritant. Naphthalene is moderately toxic.

Notes:

IRON RUSTPROOFING COMPOUND

Ingredients:	Sodium Silicate	40 oz.	1200 ml.
	Trisodium Phosphate	3/4 oz.	21 g.
	Soda Ash	1/4 oz.	7 g.
	Water	2 qt.	2 L.

Mixing: Stir sodium silicate, trisodium phosphate, and soda ash into water.

Use: With mixture at room temperature, liberally coat a piece of iron and wipe dry.

CAUTIONS: Trisodium phosphate is moderately toxic by ingestion. Both trisodium phosphate and sodium silicate may be irritating and caustic to skin and mucous membranes. Rubber gloves should be worn when handling these.

Notes:

IRON RUST-STAIN REMOVER FOR CONCRETE

Ingredients:	Sodium Citrate	1/2 C.	113 g.
	Glycerin	3 C.	711 ml.
	Water	3 C.	711 ml.
	Chalk (Calcium Carbonate)	(See mixing instructions)	

Mixing: Mix sodium citrate and glycerin into water. Stir in enough chalk until a doughlike consistency results.

Use: Trowel dough onto stained area and allow to stand from one to three days. Remove and scrape off material.

Use: For stained concrete.

CAUTIONS: Sodium citrate is combustible.

Notes:

LAMP AND TORCH OIL

(This formula is for deodorized kerosene that will burn cleanly.)

Ingredients:	Kerosene	1 gal.	3.8 L.
	Mineral Lime	3 oz.	84.0 g.
	Oil base Dye (optional)	to suit	

Mixing: Mix mineral lime into kerosene, stirring thoroughly. Strain into clean container through several layers of cheesecloth, and add an oil base dye, if desired, for lamps with glass reservoirs.

Use: Use in indoor kerosene lamps or outdoor patio torches.

CAUTIONS: Kerosene is toxic if taken internally and flammable. Wear rubber gloves while handling.

Notes:

LIQUID LIBRARY ADHESIVE

Ingredients:	Yellow Dextrin	4 T.	56 g.
	Calcium Chloride	2 T.	28 g.
	Water	2 C.	474 ml.

Mixing: Mix ingredients together at room temperature. Heat slowly while stirring until a thin, uniform consistency has been reached. Be careful not to boil. Thickness can be adjusted by varying the amount of water.

Use: Use for any cutting and pasting job.

Notes:

LIBRARY PASTE

Ingredients:	Cornstarch	1/2 C.	113.0 g.
	Cold Water	3/4 C.	177.0 ml.
	Boiling Water	6 C.	1.4 L.

Mixing: Mix cornstarch and cold water to form a paste. Add to boiling water and stir until a translucent mixture forms.

Use: Use as above for a less permanent bond.

Notes:

LUBRICATING STICK

Ingredients:	White Petrolatum	1/2 C.	113 g.
	Paraffin Wax	1/2 C.	113 g.

Mixing: Put ingredients in the top of a double boiler and heat until melted. Stir together well. Roll a piece of heavy paper over a round peg and secure it with tape to form a mold. Fold one end over and secure with tape to close. Remove peg. Pour mixture into molds when cool, but still pourable.

Use: Rub on drawer frames, window sashes, or any sliding surface.

Notes:

LUMINARIAS

(This is a remarkably beautiful outdoor lighting effect that originated in Mexico and is now used widely throughout the United States, especially at Christmas.)

Ingredients: Brown Paper Bags, medium size—as many as you want
Sand—enough to have 3 or 4 inches in the bottom of each bag
Candles—one for each bag

Making: With a scoop, put 3 or 4 inches of sand in the bottom of each bag, push the candles into the sand so that they stand upright in the center. Light the candles, leaving the top of the bags open. If you fold the sides of the bags over in a little cuff they will hold their shape better.

Use: Use them for outdoor evening parties. Line driveways and walks with them.

Notes:

MOTHPROOFING FOR TEXTILES

Ingredients:	Ammonium Selanate	1 t.	4.0 g.
	Water	1 gal.	3.8 L.

Mixing: Mix ammonium selanate into water.

Use: Soak any washable material to be protected, wring out, and air dry.

CAUTIONS: Ammonium selanate may be mildly toxic.

Notes:

MOTH REPELLENT

Ingredients:	Paradichlorobenzene	2 C.	454 g.

Mixing: Melt in the top of a double boiler and hold temperature between 130–133°F. (54–57°C.).

Use: Cut cardboard strips about 2 inches by 4 inches and dip repeatedly in the melted solution, allowing to cool between each dip, until a heavy coating is built up. Hang strips in closets or put them in clothing-storage areas.

CAUTIONS: Paradichlorobenzene is moderately toxic by ingestion and an irritant to eyes. Mix in well ventilated area.

Notes:

PINE OIL DISINFECTANT

Ingredients:	Raw Pine Oil	2 C.	474 ml.
	Sulfonated Castor Oil	1 C.	237 ml.
	Oleic Acid	6 T.	89 ml.
	Caustic Potash	1 t.	4 g.

Mixing: Mix together raw pine oil, sulfonated castor oil, and oleic acid. Then stir in caustic potash.

Use: Use about 1/2 cup (118 ml.) per gallon (3.8 L.) of warm water for mopping down floors, cleaning bathrooms, and so on.

CAUTIONS: Caustic potash heats on contact with water and can cause severe skin burns, so handle with care. If it splashes on skin, rinse with water. Wear rubber gloves.

Notes:

PLASTIC AIR FILTER FOR FURNACE AND AIR CONDITIONER

Ingredients: 1. Polyurethane Foam—cut to the size of your filter holder, not more than 1/2-inch in thickness, and less than 1 pound (454 g.) per cubic foot density.

2. Acetone	1 qt.	1 L.

Making: Pour the acetone in a shallow pan and immerse the foam sheet. It will swell quickly to 5 or 6 times the original thickness. This expansion ruptures many of the membranes between air cells in the plastic foam, so that air passes through it easily. Its thickness, and the small size of the tunnels and passages that the air must move through, make this an excellent filter.

Use: This filter may be used indefinitely. Be sure to wash it once a month under normal conditions to remove the collection of dust particles.

CAUTIONS: Acetone is extremely volatile and flammable. Use with caution away from your flame. Do not rub plastic together—a static charge may build up. Dip and squeeze gently. Allow the acetone to evaporate before installing the filter in the furnace.

Notes:

REMOVING DRIED PLASTER FROM HANDS

Ingredients: Sugar	1/2 C.	113 g.
Water	1 C.	237 ml.

Mixing: Dissolve sugar into water, stirring to form a slurry.

Use: Apply to hands and rub in well. Flush with clear water.

Notes:

ROOT DESTROYER FOR DRAINS

Ingredients: Caustic Soda	3 C.	681 g.
Copper Sulfate	1/4 C.	57 g.
Ammonium Sulfate	1 t.	4 g.

Mixing: Mix the three ingredients with a spoon or wooden fork.

Use: Put 1 cup (227 g.) in drain, or down toilet. Flush with hot water if possible.

CAUTIONS: Caustic soda heats on contact with water and can cause severe skin burns. Handle with care. Store in airtight container. Copper sulfate is highly toxic. Wear rubber gloves.

Notes:

SEPTIC TANK REACTIVATOR

Ingredients:	Brown Sugar	1 lb.	454 g.
	Dried Yeast	1 envelope	
	Water	1 qt.	1 L.

Mixing: Simply add the brown sugar and yeast to water, and stir until most of the sugar is dissolved.

Use: Pour mixture in the toilet and flush. This will restart the proper bacterial action in the septic tank.

Notes:

SNOW AND ICE-MELTING COMPOUND

Ingredients:	Rock Salt	4 C.	908 g.
	Ammonium Sulfate	1/8 C.	32 g.
	Magnesium Sulfate	4 C.	908 g.

Mixing: Mix the three ingredients together thoroughly and store in an airtight container.

Use: Sprinkle about one handful per six-square feet on snow or ice.

Notes:

SOAP SALVAGE

A significant portion of each bar of soap is wasted because it is too small for easy handling. Here is a simple, economical, conservation method for utilizing normally wasted soap ends.

Cut the ends you've saved into slivers and put them in a pan with a small amount of water, just enough to cover. Heat to a boil and reduce by roughly the amount of water you put in. Cool down and pour into molds. Plastic soap dishes are good, reusable molds. Allow to set for several days, remove from molds, and use.

Notes:

TOBACCO PIPE CLEANER AND DEODORANT

Ingredients:	Isopropyl Alcohol	3 T.	45 ml.
	Water	10 T.	150 ml.
	Soap Chips	2 T.	28 g.
	Formaldehyde	2 T.	30 ml.

Mixing: Mix the isopropyl alcohol with the water and add soap chips to the mixture. Then add formaldehyde as the final step and stir.

Use: Remove built-up residue in bowl of pipe to desired level, then swab pipe and bowl with a pipe cleaner saturated in this solution.

CAUTIONS: Formaldehyde is highly toxic by ingestion, inhalation, or skin contact. Isopropyl alcohol is mildly toxic by inhalation and ingestion. Flammable.

Notes:

UTILITY CANDLES

In light of the energy problem and the resulting brownouts and blackouts, the utility candle, like the oil or kerosene lamp, has become a necessity in the home. Here's a formula for a good serviceable and inexpensive candle that is easily made.

Ingredients:	Paraffin Wax	2 C.	454 g.
	Stearic Acid	1 C.	227 g.
	Cotton Wicking	several feet	
	Molds	several	

Making: The simplest mold for a square candle is a quart-size milk carton with the top cut off. For round candles, use a section of paperboard mailing tubes, or the tubes from the inside of toilet paper rolls or paper towels, with one end sealed by taping a paperboard disc in place.

Cut a length of wick and tie one end around a pencil or small stick that will go across the top end of the mold. Tie a metal nut or washer to the other end so that it hangs just at the bottom of the mold. This will keep the wick straight and centered.

Melt paraffin wax and stearic acid in the top of a double boiler, allow to cool to just above solidification point, and pour into molds. At first, pour just a little in the bottom to make sure there are no leaks. As the wax cools, it will contract a little, leaving a depression in the center around the wick. If necessary, fill it up with more melted wax. When the wax has hardened, cut away the paper mold. If a smooth, shiny surface is desired, hold the candle by the wick and dip it in and out of boiling water and then immediately dip it in ice water.

If desired, the wick can be put in after the candle has been melted by making a

hole down the center of the candle with a small, long drill, or a heated rod—such as an ice pick.

Be sure not to use force, as this will break the candle. When the hole is made, dip the wick in melted wax and cool, stretched out between two pins. When it is cool, gently push the wick into the candle. This method might be one way to find the right size wick to use for your candles—if the wick is too thick, it will burn too fast and wax will drip down the sides. If it is too thin, it won't burn up the wax fast enough and the wick will drown. Generally, the larger the diameter of the candle, the thicker the wick should be.

Notes:

WALLPAPER REMOVING

Ingredients:	Liquid Detergent	1/2 C.	118 ml.
	Water	2 C.	474 ml.
	Ethylene Glycol Monoethylether	1/2 C.	118 ml.

Mixing: Mix the liquid detergent with water, then gently stir in the ethylene glycol monoethylether.

Use: Mix 1/2 cup (118 ml.) to 1 quart (1 L.) warm water. Apply with sponge and allow to soak in for 10 minutes before taking wallpaper off with scraper.

CAUTIONS: Ethylene glycol monoethylether is flammable. Mix ingredients in a well ventilated room.

Notes:

"Look at my wall! Can't you tell the difference between bug-killer and spray-paint?"

ANTISTATIC SPRAY FOR RUGS

Ingredients:	Silicone Oil Emulsion	3 T.	45 ml.
	Water	1 qt.	1 L.

Mixing: Mix silicone oil emulsion into water.

Use: Spray on rug or carpet in heavy traffic areas to prevent static electricity shocks. Each treatment will be effective for three or four weeks, depending on traffic and the type of fabric. This compound works by reducing the friction between your shoes and the rug.

Notes:

CARPET CLEANER

Ingredients:	Whole Wheat Flour	3 C.	681 g.
	Water	1-3/4 C.	414 ml.
	Aluminum Stearate	1 T.	14 g.
	Salicylic Acid	1 T.	14 g.
	Mineral Oil	1-1/4 C.	296 ml.

Mixing: Mix whole wheat flour and water into paste. Add aluminum stearate and salicylic acid, mixing well. Then add the mineral oil and mix well.

Use: Brush paste into soiled area and wipe away with a damp cloth and clear water.

Notes:

CEMENT FLOOR HARDENER AND SEALER

Ingredients:	Magnesium Fluosilicate	1 lb.	454 g.
	Water	2 gal.	8 L.

Mixing: Mix the magnesium fluosilicate with water.

Use: Flush over surface of floor with a broom and allow to stand for one hour. Wash off with clear water.

CAUTIONS: Magnesium fluosilicate is highly toxic when taken internally and is a strong irritant to skin. Use only in well ventilated area and wear rubber gloves.

Notes:

CERAMIC TILE CLEANER

Ingredients:	Trisodium Phosphate	2 T.	28.0 g.
	Water	1 gal.	3.8 L.

Mixing: Mix trisodium phosphate into water.

Use: Apply to tile floor with brush, sponge, or cloth. Wring out a sponge and mop-up dirty water. The floor needs no rinsing, unless higher concentrations of trisodium phosphate are used, for heavy-duty cleaning.

CAUTIONS: Trisodium phosphate is a skin irritant; use rubber gloves. It is also moderately toxic by ingestion.

Notes:

CONCRETE ACID WASH

Ingredients:	Aluminum Chloride	1.5 lb.	681 g.
	Water	10 gal.	38 L.

Mixing: Mix aluminum chloride into water.

Use: Apply to concrete surface with brush or broom. After one hour, wash with clear water.

CAUTIONS: Aluminum chloride is highly toxic by inhalation and ingestion and a strong irritant to tissue. If it comes in contact with skin, wash with clear water for prolonged periods of time. Wear rubber gloves.

Notes:

CONCRETE CLEANER

Ingredients:	Sodium Metasilicate	3-1/4 C.	738 g.
	Trisodium Phosphate	3/4 C.	170 g.
	Soda Ash	1/2 C.	113 g.

Mixing: Stir all the ingredients together, mixing well.

Use: Wet concrete surface, sprinkle mixture around, allow to stand for 15 minutes, then rinse with clear water.

CAUTIONS: Trisodium phosphate is a skin irritant; use rubber gloves. It is also moderately toxic by ingestion.

Notes:

CONCRETE FLOOR DUSTPROOFING

Ingredients:	Sodium Silicate (Waterglass)	1 qt.	1.0 L.
	Water	3 qt.	2.8 L.

Mixing: Mix sodium silicate into water.

Use: Mop the concrete floor with plain water. When just dry or still slightly damp apply a liberal coat of the mixture and allow 24 hours before using.

CAUTIONS: Sodium silicate may be irritating and caustic to skin and mucous membranes.

Notes:

"You're washing the floor with tomorrow's soup-of-the-day!"

LIQUID FLOOR WAX EMULSION

Ingredients:	Carnauba Wax	30 oz.	850 g.
	Castile Soap	7-1/2 oz.	210 g.
	Oleic Acid	1-1/2 oz.	45 ml.
	Caustic Soda	3/4 oz.	21 g.
	Water	1.5 gal.	6 L.

Mixing: Melt carnauba wax, castile soap, and oleic acid in top of double boiler. In a separate container, dissolve caustic soda and water. When the ingredients in the double boiler have melted, turn off heat and add caustic soda and water mixture in a steady stream with rapid stirring, continuing until the liquid becomes milky—this indicates that the emulsion has formed.

Use: Apply to floor and spread with applicator. When floor is dry, buff it.

CAUTIONS: Caustic soda heats on contact with water, is highly caustic, and can cause skin burns. In the event of contact with skin, flush freely with clear water for prolonged periods of time. Handle with care and store in airtight container.

Notes:

DANCE FLOOR WAX

Ingredients:	Stearic Acid	1/2 lb.	227 g.
	Talc	1/2 lb.	227 g.

Mixing: Mix together stearic acid and talc, stirring well.

Use: Apply lightly with a shaker to floor.

Notes:

WOOD FLOOR BLEACH I

Ingredients:	Sodium Metasilicate	9 C.	2 kg.
	Sodium Perborate	1 C.	227 g.

Mixing: Stir ingredients together thoroughly.

Use: Use 1 pound (254 g.) of mixture to 1 gallon (3.8 L.) boiling water. Spread on floor with a mop, allow to stand for 30 minutes, and rinse with clear water. Use rubber gloves.

Notes:

WOOD FLOOR BLEACH II

Ingredients:	Sodium Perborate	1/2 lb.	227 g.
	Water	enough to make paste	

Mixing: Mix enough water into sodium perborate to form a thin paste.

Use: Rub on floor, let stand for 30 minutes, and rinse. Use rubber gloves.

Notes:

WOOD FLOOR CLEANER

Ingredients:	Mineral Oil	2-1/4 C.	533 ml.
	Oleic Acid	3/4 C.	177 ml.
	Ammonia	2 T.	30 ml.
	Turpentine	5 T.	75 ml.

Mixing: Mix mineral oil and oleic acid together, then add ammonia and turpentine.

Use: Mix 1 cup (237 ml.) to 8 cups (1.9 L.) water. This is excellent for cleaning parquet floors with a sponge mop or coarse towelling.

CAUTIONS: Turpentine is toxic if taken internally. It is also flammable. Handle with care. Avoid vapors of ammonia.

Notes:

FLOOR POLISH

Ingredients:	Paraffin Wax	1/4 C.	57 g.
	Mineral Oil	2 qt.	2 L.

Mixing: Melt paraffin wax in the top of a double boiler; stir in mineral oil. Cool and store in bottles.

Use: Just dampen a cloth or sponge with polish and go over floor.

Notes:

LIQUID FLOOR WAX I

Ingredients:	Yellow Beeswax	2 T.	28 g.
	Ceresin Wax	1/2 C.	113 g.
	Turpentine	2 C.	474 ml.
	Pine Oil	1 T.	15 ml.

Mixing: Melt yellow beeswax and ceresin wax in double boiler. Turn off heat and cool for a few minutes, then slowly stir in turpentine and pine oil. Let cool to room temperature and pour into containers.

Use: Apply a thin coat to floors, let dry, and polish with a clean dry cloth or an electric buffer.

CAUTIONS: Turpentine is toxic if taken internally. It is also flammable. Handle with care.

Notes:

LIQUID FLOOR WAX II

Ingredients:	Beeswax	1/4 lb.	113 g.
	Paraffin Wax	1 lb.	454 g.
	Raw Linseed Oil	1/2 C.	118 ml.
	Turpentine	3 C.	711 ml.

Mixing: Melt beeswax and paraffin wax in top of double boiler. Turn off heat and let cool for a few minutes. Stir in linseed oil and turpentine, stirring rapidly until the whole is well mixed.

Use: Apply a thin coat to floors, let dry, and polish with a clean cloth or an electric buffer.

CAUTIONS: Turpentine is toxic if taken internally. It is also flammable. Handle with care.

Notes: Linseed oil dries when exposed to air. Keep in airtight container.

FLOOR-SWEEPING COMPOUND

Ingredients:	Sawdust (sifted)	6 C.	1.4 kg.
	Rock Salt	2 C.	454.0 g.
	Mineral Oil	1 C.	237.0 ml.

Mixing: Mix sawdust with rock salt, and then mix in mineral oil. Stir well to allow complete absorption of the mineral oil.

Use: Sprinkle on the floor, then sweep. This keeps down dust as you work.

Notes:

LINOLEUM PASTE WAX

Ingredients:	Carnauba Wax	1-1/2 C.	340 g.
	Ceresin Wax	1-1/2 C.	340 g.
	Mineral Spirits	4 C.	948 ml.

Mixing: Melt carnauba and ceresin waxes in a double boiler. Turn off heat and allow to cool for a few minutes, then slowly stir in mineral spirits. When the mixture just begins to solidify around the edges, pour into a container.

Use: Apply with a cloth or sponge, let dry, and polish with a soft cloth or buffer.

CAUTIONS: Mineral spirits is flammable.

Notes:

LINOLEUM POLISH

Ingredients:	Carnauba Wax	1/2 C.	113 g.
	Paraffin Wax	2 T.	28 g.
	Yellow Beeswax	4 T.	56 g.
	Turpentine	4 C.	948 ml.

Mixing: Melt the three waxes in a double boiler. Turn off heat and allow to cool for a few minutes. Then stir in turpentine and cool to room temperature. Store in bottles.

Use: Apply a light coat with a cloth or sponge, let dry, and polish with a soft cloth or buffer.

CAUTIONS: Turpentine is toxic if taken internally. It is also flammable. Handle with care.

Notes:

MINERAL OIL EMULSION I

Ingredients:	Mineral Oil	4 C.	948 ml.
	Ammonium Oleate	6 T.	84 g.
	Water	3 C.	711 ml.

Mixing: Warm all ingredients in a double boiler, then mix vigorously with an eggbeater or electric mixer until a milky emulsion forms.

Use: Apply with a sponge or cloth to tile floors. This is excellent for use on Mexican or quarry tiles, or brick.

Notes:

MINERAL OIL EMULSION II

Ingredients:	Mineral Oil	2-1/2 C.	592 ml.
	Oleic Acid	3 T.	45 ml.
	Triethanolamine	2 T.	30 ml.
	Water	3 C.	711 ml.

Mixing: Warm all ingredients in a double boiler, then mix vigorously with an eggbeater or electric mixer until a milky emulsion forms.

Use: Apply with a sponge or cloth to tile floors.

CAUTIONS: Triethanolamine may be somewhat irritating to skin and mucous membranes.

Notes:

MOP OIL

Ingredients:	Turpentine	1 C.	237 ml.
	Mineral Oil	2 C.	474 ml.

Mixing: Stir the turpentine into the mineral oil.

Use: Barely dampen a dustmop with a few drops of this oil so that it will collect dust but not leave oil on the floor.

CAUTIONS: Turpentine is toxic if taken internally and flammable. Handle with care.

Notes:

ALUMINUM CLEANER

Ingredients:	Aluminum Potassium Sulfate (Powdered Alum)	2 T	28 g.
	Trisodium Phosphate	1 C.	227 g.
	Water	to form paste	

Mixing: Mix powdered alum and trisodium phosphate. Then add water, stirring slowly, until a thick paste is formed.

Use: Apply a small amount with a soft cloth to any aluminum product and rub lightly. Rinse off with clean water.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

ALUMINUM POLISH I

Ingredients:	Aluminum Potassium Sulfate (Powdered Alum)	1 C.	227 g.
	Calcium Carbonate (Chalk)	1-1/3 C.	303 g.
	Talc	1 C.	227 g;

Mixing: Mix all three together well.

Use: Use a small amount on a damp, soft cloth, rub well, and rinse off with warm, clean water.

Notes:

ALUMINUM POLISH II

Ingredients:	Paraffin Wax (Powdered)	1 oz.	28 g.
	Magnesium Oxide	4 oz.	112 g.
	Calcium Carbonate (Chalk)	3 oz.	84 g.
	Iron Oxide (Red)	2 oz.	56 g.

Mixing: Mix all four ingredients together in a bowl, using a fork.

Use: Transfer to an open-mouth jar. Apply to aluminum with a damp cloth and rub. Wash with clear water.

Notes:

"It says right here on the can, 'Do not use to clean overnight'."

HOUSEHOLD AMMONIA

Ingredients:	Ammonium Hydroxide	3/4 C.	177.0 ml.
	Water	1 gal.	3.8 L.

Mixing: Add ammonium hydroxide to water, with gentle stirring.

Use: Use as a general cleaning agent diluted with water, or in any formula where household ammonia is called for.

CAUTIONS: Vapors of ammonium hydroxide are irritating and corrosive to eyes and skin. It is toxic by ingestion. Handle carefully. If it is splashed on skin, rinse well with plenty of water. Also rinse utensils thoroughly after use. Wear rubber gloves.

Notes:

AMMONIA SUBSTITUTE

Ingredients:	Trisodium Phosphate	6 T.	84.0 g.
	Lauryl Pyridinium Chloride	1/2 T.	7.0 g.
	Water	1 gal.	3.8 L.

Mixing: Stir trisodium and lauryl pyridinium chloride with water.

Use: Use this in the same way you would use regular ammonia. It is not as strong, however.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves. Lauryl pyridinium chloride may be mildly irritating to skin.

Notes:

AMMONIA WASHING POWDER

Ingredients:	Powdered Soap	2 C.	454 g.
	Ammonium Carbonate	2 C.	454 g.

Mixing: Simply mix the two ingredients together.

Use: Add approximately 2 tablespoons (28 g.) to each quart of water for general household cleaning jobs.

CAUTIONS: Ammonium carbonate, if heated, may result in irritating fumes.

Notes:

ANTISEPTIC CLEANER, GENERAL USE

Ingredients:	Trisodium Phosphate	6 C.	1.4 kg.
	Soda Ash	1 C.	227.0 g.
	Sodium Perborate	3/4 C.	170.0 g.
	Borax	1/4 C.	57.0 g.
	Powdered Soap	2 C.	454.0 g.

Mixing: Mix all five ingredients above together.

Use: Use 1 cup (227 g.) to 1 quart (1 L.) hot water for general cleaning.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

ANTISEPTIC DETERGENT

Ingredients:	Trisodium Phosphate	2 C.	454 g.
	Sodium Bicarbonate (Baking Soda)	1 C.	227 g.
	Sodium Pyrophosphate	1 C.	227 g.

Mixing: Mix all three together well.

Use: Use as a regular washing detergent whenever antiseptic action is required.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

BATHTUB AND SINK CLEANER

Ingredients:	Trisodium Phosphate	1 C.	227 g.
	Powdered Soap	1 C.	227 g.
	Calcium Carbonate (Chalk)	2 C.	454 g.

Mixing: Mix three ingredients together in a large bowl with a wooden fork or spoon.

Use: Pick up some of this powder on a damp cloth and rub on the area to be cleaned. Rinse with clear water.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

BLACKBOARD CLEANER

Ingredients:	Acetic Acid (Vinegar)	2 C.	474.0 ml.
	Detergent	1 C.	227.0 g.
	Water	1 gal.	3.8 L.

Mixing: Mix acetic acid and detergent into water.

Use: Wash blackboard with a cloth or sponge. Clean with a squeegee or rinse with clean water.

Notes:

BRASS AND COPPER CLEANER

Ingredients:	Sodium Bicarbonate (Baking Soda)	1/4 C.	57 g.
	Sodium Metasilicate	1/2 C.	113 g.
	Trisodium Phosphate	1/4 C.	57 g.

Mixing: Mix all three ingredients together well.

Use: Use a small amount on a damp, soft cloth, rub well, and rinse off with warm, clean water.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

BRASS PASTE POLISH

Ingredients:	Stearic Acid or Powdered Paraffin	3/4 T.	10 g
	Petroleum Distillate	1/4 C.	59 ml.
	Caustic Soda	1/2 T.	7 g.
	Denatured Alcohol or Isopropyl Alcohol	1 T.	15 ml
	Powdered Clay or Talc	enough to make paste	

Mixing: Mix stearic acid or powdered paraffin with petroleum distillate, then add caustic soda, then denatured or isopropyl alcohol. Stir in enough powdered clay or talc to make a thick paste.

Use: With a damp cloth or sponge. Rub a small amount on the brass surface you wish to polish. Rinse off with clean, warm water.

CAUTIONS: Caustic soda heats on contact with water and can cause severe burns to skin. Handle with care. Store in an airtight container. Both denatured and isopropyl alcohol may be toxic if taken internally and both are flammable.

Notes: For proper grade of alcohol, see Appendix 4 *Denatured Alcohol.*

CHROMIUM CLEANER AND POLISH

Ingredients:	Isopropyl Alcohol	to suit	
	Lampblack	6 T.	84 g.

Mixing: Mix isopropyl alcohol into lampblack to form a heavy paste.

Use: Apply thin layer to chrome surface with cloth. When film forms, wipe to polish surface.

CAUTIONS: Isopropyl alcohol may be mildly toxic by ingestion and is flammable.

Notes:

COPPER CLEANER

Ingredients:	Sodium Bicarbonate	1/4 C.	57 g.
	Sodium Metasilicate	1/2 C.	113 g.
	Trisodium Phosphate	1/4 C.	57 g.

Mixing: Mix all three together well.

Use: Use a small amount on a damp, soft cloth, rub well, and rinse off with warm clean water.

Notes:

COPPER-POLISHING STONE

Ingredients:	Sodium Bisulfate Powder	5 oz.	140 g.
	Calcium Sulfate	8 oz.	224 g.
	Clay	16 oz.	448 g.
	Powdered Quartz	6 oz.	168 g.
	Water	to suit	

Mixing: Mix sodium bisulfate powder, calcium sulfate, clay, and powdered quartz together. Add a sufficient amount of water to form a doughlike consistency. When dough is formed, press into molds, and allow to dry.

Use: This stone may be rubbed directly on copper. Or a damp cloth or sponge may be rubbed over the stone and then applied to the copper.

CAUTIONS: Sodium bisulfate is toxic in solution and an irritant to eyes and skin.

Notes:

GENERAL PURPOSE DEODORANT AND DISINFECTANT

Ingredients:	Soap Chips	1 lb.	454 g.
	Water	1 qt.	1 L.
	Pine Oil	1 qt.	1 L.

Mixing: Gently stir soap chips into water. If a thick layer of suds forms, stop and wait until they subside. When soap chips are thoroughly dissolved, add pine oil and mix well.

Use: Use full strength or dilute with water, depending on the job to be done.

Notes:

DISHWASHING COMPOUND

Ingredients:	Trisodium Phosphate	3 C.	681 g.
	Tetrasodium Pyrophosphate	1 C.	227 g.
	Borax	1/2 C.	113 g.

Mixing: Mix all three ingredients together well. Store in an airtight container.

Use: Use amount, depending on the hardness of the water. Normally, 2 tablespoons (28 g.) per sink or dishpan of water is sufficient.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

ENAMEL CLEANER

Ingredients:	Sodium Carbonate (Soda Ash)	3 T.	42 g.
	Sodium Metaphosphate	1 T.	14 g.
	Soap Powder	2 T.	28 g.
	Fine Pumice Powder	1 C.	227 g.

Mixing: Mix all four ingredients together well.

Use: Apply with a damp rag or sponge to enamel surfaces.

Notes:

FURNITURE POLISH, LEMON OIL

Ingredients:	Lemon Extract	1 T.	15 ml.
	Mineral Oil	1 qt.	1 L.

Mixing: Stir lemon extract into mineral oil. Store in glass or plastic bottle.

Use: Pour or spray a small amount directly on furniture and polish with a soft cloth. Do not get on upholstery.

Notes:

OAK FURNITURE CLEANER

Ingredients:	Soda Ash	1/2 C.	113 g.
	Warm Water	1 qt.	1 L.

Mixing: Dissolve soda ash into warm water.

Use: Apply to furniture with a soft scrub brush and rinse with clean water.

Notes:

FURNITURE POLISH, OIL AND WAX

Ingredients:	Mineral Oil	1 qt.	1 L.
	Carnauba Wax	2 T.	28 g.

Mixing: Put ingredients in the top of a double boiler and heat until the carnauba wax melts and can be mixed with the mineral oil. Then cool and store in glass or plastic bottles.

Use: Apply to furniture with a soft scrub brush and rinse with clean water.

Notes:

FURNITURE POLISH, SILICONE

Ingredients:	Silicone Oil	2 T.	30 ml.
	Mineral Oil	1 qt.	1 L.

Mixing: Stir ingredients together. This formula does not require heating.

Use: Apply to furniture with a soft scrub brush and rinse well with clean water.

Notes:

FURNITURE POLISH, THIN FILM

Ingredients:	Mineral Oil	3 C.	711 ml.
	Benzene	2 C.	474 ml.

Mixing: Stir both ingredients together.

Use: Apply to furniture with a soft scrub brush and rinse with clean water.

CAUTIONS: This is a flammable mixture (benzene is flammable). Store in closed containers and exercise due caution when using.

Notes:

FURNITURE POLISH, WATER EMULSION

Ingredients:	Mineral Oil	1-1/4 C.	296 ml.
	Pine Oil (Steam Distilled)	1 T.	15 ml.
	Liquid Detergent	4 T.	60 ml.
	Water	1-1/2 C.	355 ml.

Mixing: Stir together mineral oil, pine oil, and liquid detergent. Keep stirring until the mixture is clear. Then add water very slowly in a thin stream, stirring constantly.

Use: Apply to furniture with a soft scrub brush and rinse with clean water.

Notes:

FURNITURE SCRATCH REMOVER

Ingredients:	Ground Pecan Nut Meal	1 T	14 g.
	Mineral Oil	enough to make thick paste	

Mixing: Make sure the pecan nut meal is very finely ground, then add a few drops of mineral oil and mix thoroughly. Once a thick paste has formed, store in small tins.

Use: Rub the corner of a cloth in this paste and rub the cloth over any scratches you wish to cover.

Notes:

GLASS CLEANER CAKE

Ingredients:	Granulated Soap	1/4 C.	57 g.
	Hot Water	1/4 C.	59 ml.
	Fuller's Earth	1/2 C.	113 g.
	Calcium Carbonate (Chalk)	1/4 C.	57 g.

Mixing: Dissolve soap in hot water. Separately mix fuller's earth and chalk. Add this to the soap solution. Mix well and press into a paper-box mold, such as a large matchbox.

Use: Rub a damp cloth or sponge over the surface of the block and rub the window panes. When dry, wipe off with a dry cloth.

Notes:

GLASS CLEANER FOR GENERAL USE

Ingredients:	Sodium Carbonate (Soda Ash)	6 oz.	168 g.
	Sodium Bicarbonate (Baking Soda)	4 oz.	112 g.

Mixing: Dry-mix ingredients thoroughly and transfer to large, open-mouth jar.

Use: Dampen a cloth, dip into the mixture, and apply to glass. When it is dried to a white powder, remove with a soft, lintfree cloth.

Notes:

GLASS CLEANER, POWDER

Ingredients:	Trisodium Phosphate	8 oz.	224 g.
	Tetrasodium Pyrophosphate	2 oz.	56 g.

Mixing: Dry-mix ingredients and transfer to open-mouth jar or can.

Use: Dampen a cloth, dip into powder, and apply to the glass to be cleaned. Wait until a dry, white film appears on the glass and polish with a soft, lintfree cloth.

CAUTIONS: Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

GLASS POLISH

Ingredients:	Calcium Carbonate (Chalk)	1-1/4 C.	284 g.
	Ground Quassia	2 T.	28 g.
	Ammonium Carbonate	2 T.	28 g.

Mixing: Mix all three ingredients together well.

Use: Apply to glass with a damp cloth or sponge and rinse with water.

CAUTIONS: When ammonium carbonate is heated, irritating fumes may result.

Notes·

GLASS SCRATCH REMOVER

Ingredients:	Iron Oxide (Jeweler's Rouge)	2 T.	28 g.
	Glycerin	2 T.	30 ml.
	Water	2 T.	30 ml.

Mixing: Mix iron oxide and glycerin, then add water slowly until a thick paste is formed.

Use: Apply with a damp cloth, which has been folded in half several times to form a pad. Rub quite hard for several minutes, or until the scratches begin to disappear. Then rinse with clean water and inspect. Rub more if needed.

Notes:

GOLD POLISH

Ingredients:	Fuller's Earth	1 C.	227 g.
	Calcium Carbonate (Chalk)	1 C.	227 g.
	Ammonium Sulfate	2 T.	28 g.
	Aluminum Powder	1 T.	14 g.

Mixing: Mix all ingredients together with a fork.

Use: With a damp cloth, pick up a small amount and rub on gold to clean and polish. Rinse with clean water.

Notes:

GREASE SPOT REMOVER

Ingredients:	Sodium Aluminate	1 C.	227 g.
	Water	2 qts.	2 L.

Mixing: Dissolve sodium aluminate in water by mixing with a spoon.

Use: Warm the solution and immerse the soiled area. For smaller areas, place a blotter under the spot and apply the warm solution with a sponge. Let dry and wash normally.

Notes:

INK ERADICATOR

Ingredients:	Aluminum Potassium Sulfate (Alum)	3 T.	42 g.
	Citric Acid	3 T.	42 g.
	Water	5 T.	75 ml.

Mixing: Mix alum and citric acid together, then dissolve in water.

Use: Apply a few drops to ink spot and allow to stand for about 5 minutes. Use a little more if necessary.

Notes:

INK REMOVER FOR HANDS

Ingredients:	Denatured Alcohol or Isopropyl Alcohol	3 T.	45 ml.
	Glycerin	1 T.	15 ml.
	Titanium Trichloride	1 T.	14 g.

Mixing: Mix the three ingredients together.

Use: Rub a small amount into stained area; wash with clear water.

CAUTIONS: Denatured or isopropyl alcohol may be toxic if taken internally and are flammable. Titanium trichloride is toxic and can be flammable. Care should be taken when opening the container; the dry powder may burn when exposed to air.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

INK SPOT REMOVER

Ingredients:	Sodium Perborate	1/2 t.	2 g.
	Water	1/2 C.	118 ml.

Mixing: Mix sodium perborate into water.

Use: Soak spot to be cleaned, wipe with a cloth or sponge dipped in clean water, then blot-dry with paper towels.

Notes:

MAGNESIUM METAL CLEANER

Ingredients:	Caustic Soda	1 T.	14 g.
	Soda Ash	2 T.	28 g.
	Diglycol Stearate	1/2 T.	7 g.
	Water	1 qt.	1 L.

Mixing: Stir dry ingredients into water until they are all dissolved.

Use: Dip a soft cloth in this solution and rub over the metal to be cleaned. Rinse off with clean water.

CAUTIONS: Caustic soda heats on contact with water and can cause severe burns to skin. Handle with care. Store in an airtight container.

Notes:

MARBLE CLEANING POWDER

Ingredients:	Sodium Sulfate	3/4 C.	170 g.
	Sodium Sulfite	1/4 C.	57 g.

Mixing: Mix ingredients together.

Use: Apply with a damp cloth to marble surfaces.

Notes:

ALL-PURPOSE METAL CLEANER

Ingredients:	Trisodium Phosphate	1-1/2 C.	341.0 g.
	Soda Ash	6 C.	1.4 kg.
	Bicarbonate of Soda (Baking Soda)	2-1/2 C.	567.0 g.

Mixing: Mix all ingredients together with fork.

Use: Apply with a damp cloth or sponge to metal surfaces and rinse with clean water.

CAUTIONS; Trisodium is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

ALL-PURPOSE METAL POLISH

Ingredients:	Household Ammonia	1/2 C.	118 ml.
	Denatured Alcohol or Isopropyl Alcohol	1/2 C.	118 ml.
	Diatomaceous Earth	1 C.	227 g.
	Water		

Mixing: Mix household ammonia with alcohol, then stir in diatomaceous earth in small amounts at a time. Add just enough water to reach a thick, creamy consistency.

Use: Shake well before each use, apply with a cloth, and rinse with clean water.

CAUTIONS: Denatured and isopropyl alcohols may be toxic by ingestion and are flammable. Avoid vapors of household ammonia.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

METAL POLISHING CLOTH

Ingredients:	Paraffin Oil	1 qt.	1 L.
	Petrolatum	1/2 C.	118 ml.

Mixing: Warm paraffin oil and petrolatum and stir together.

Use: Soak a square of flannel cloth in this solution and wring out the excess so that the cloth is saturated with the oil, but not dripping. Rub lightly over metal surface to be polished.

Notes:

OIL AND GREASE SPOT REMOVER

Ingredient: Fuller's Earth (or Diatomaceous Earth, from swimming-pool supplier)

Use: Sprinkle on spot, brush in well, allow to remain for a few minutes, and remove with a damp cloth.

Notes:

EXTRA-STRENGTH CLEANER FOR PAINT AND WOODWORK

Ingredients:	Water	1-1/2 C.	355 ml.
	Diglycol Stearate	4 T.	56 g.
	Kerosene	1 C.	237 ml.
	Trisodium Phosphate	1 T.	14 g.

Mixing: Heat water to 150° F. Add diglycol stearate and stir until dissolved. Add kerosene and trisodium phosphate. Maintain temperature and mix vigorously with an eggbeater or electric mixer until a milky emulsion forms. Turn off heat and continue stirring until the temperature drops to 95° F. The emulsion will then be stable.

Use: Apply to painted surface with brush; remove with clean water.

CAUTIONS: Kerosene is toxic if taken internally and flammable. Trisodium phosphate is a skin irritant and moderately toxic by ingestion. Use rubber gloves.

Notes:

PAINT SPOT REMOVER

Ingredients:	Turpentine	1 C.	237 ml.
	Household Ammonia	1 C.	237 ml.

Mixing: Stir ingredients together.

Use: Rub into the spot with a cloth or sponge and wipe dry with a clean cloth.

CAUTIONS: Turpentine is toxic if taken internally and flammable. Use rubber gloves. Avoid vapors of household ammonia.

Notes:

PAINT AND WALL CLEANER I

Ingredients:	Corn Flour	1/2 C.	113.0 g.
	Copper Sulfate	1 T.	14.0 g.
	Aluminum Potassium Sulfate (Alum)	1/8 t.	0.5 g.
	Hot Water	1 qt.	1.0 L.

Mixing: Mix all ingredients together thoroughly.

Use: Apply to painted woodwork and walls; wash off with clear water.

CAUTIONS: Copper sulfate is highly toxic.

Notes:

PAINT AND WALL CLEANER II

Ingredients:	Trisodium Phosphate	32 oz.	907.0 g.
	Powdered Soap	4 oz.	112.0 g.
	Caustic Soda	2 oz.	56.0 g.
	Water, Hot	1 gal.	3.8 L.

Mixing: Dry-mix trisodium phosphate, powdered soap, and caustic soda with a wooden fork in a wooden, ceramic, or glass bowl. Store in an airtight container. Before using, add 2 ounces (56 g.) of this dry mixture to hot water and stir thoroughly.

Use: Apply to painted woodwork; wash off with clear water.

CAUTIONS: Caustic soda heats on contact with water and can cause severe burns to skin. In the event contact is made with skin, flush immediately with clear water for prolonged periods of time. Handle with care. Trisodium phosphate is an irritant to skin and moderately toxic by ingestion. Use rubber gloves.

Notes.

PINE OIL DISINFECTANT

Ingredients:	Pine Oil	1 C.	237 ml.
	Liquid Soap	2 C.	474 ml.

Mixing: Mix the pine oil and soap together by stirring.

Use: Add one part of this mixture to fifty parts of water and apply wherever a disinfectant is needed.

Notes:

PLASTIC POLISH

Ingredients:	Sodium Hypochlorite	3 T.	42 g.
	Caustic Soda	1/2 t.	2 g.
	Water	2 C.	474 ml.

Mixing: Carefully stir sodium hypochlorite and caustic soda into water.

Use: Apply to plastic furniture and other plastic materials with a soft cloth or a sponge. Rinse with clean water.

CAUTIONS: Sodium hypochlorite and caustic soda are toxic by ingestion or inhalation, and both are highly irritating on the skin and eyes. Use caution in handling. In event of skin contact, flush areas liberally with water. Caustic soda heats on contact with water and causes severe burns. Store in an airtight container.

Notes:

PORCELAIN CLEANER, LIQUID

Ingredients:	Mineral Oil	1 C.	237 ml.
	Deodorized Kerosene	1 C.	237 ml.
	Oil-base Perfume	as desired	

Mixing: Mix mineral oil and deodorized kerosene thoroughly, then add perfume while stirring.

Use: Dampen a cloth with this mixture—do not saturate it—and rub over area to be cleaned. Wipe dry and clean with either a dry corner of the original cloth, or a fresh, dry cloth.

CAUTIONS: Kerosene is toxic if taken internally and flammable.

Notes:

PORCELAIN CLEANER, POWDERED

Ingredients:	Trisodium Phosphate	1/2 C.	113 g.
	Soap Powder	1/2 C.	113 g.
	Fine Chalk or Talc	1 C.	226 g.

Mixing: Dry-mix the three ingredients.

Use: Apply to porcelain with damp cloth or sponge and rinse with clear water.

CAUTIONS: Trisodium phosphate is an irritant to skin and moderately toxic by ingestion. Use rubber gloves.

Notes:

REMOVING WATER SPOTS FROM FURNITURE

Ingredients:	Lemon Extract	10 Drops	1 ml.
	Denatured Alcohol or Isopropyl Alcohol	2 C.	474 ml.

Mixing: Mix lemon extract into denatured or isopropyl alcohol.

Use: Dampen one corner of a soft cloth and rub the spot gently until it disappears. Then rub dry with a dry end of the cloth.

CAUTIONS: Isopropyl or denatured alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

RUG CLEANING LIQUID

Ingredients:	Denatured Alcohol or Isopropyl Alcohol	1 C.	237.0 ml.
	Vinegar	5 C.	1.2 L.
	Lauryl Pyridinium Chloride	1/4 t.	1.0 g.

Mixing: Mix alcohol and vinegar, then stir in lauryl pyridinium chloride. Store in bottles.

Use: Brush mixture into the rug, allow to dry, and vacuum up.

CAUTIONS: Isopropyl and denatured alcohol may be toxic by ingestion and are flammable. Lauryl pyridinium chloride may be mildly irritating to skin.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

RUG DRY-CLEANING FLUID

Ingredients:	Stoddard Solvent	1-1/2 C.	355.0 ml.
	Diglycol Laurate	1/8 t.	0.6 ml.
	Water	1/2 C.	118.0 ml.
	Diatomaceous Earth	3 C.	681 g.

Mixing: Mix stoddard solvent, diglycol laurate, and water into diatomaceous earth.

Use: Apply a generous amount to the area to be cleaned, brush in, let dry, and vacuum.

CAUTIONS: Stoddard solvent is slightly flammable.

Notes:

SOAPLESS RUG CLEANER

Ingredients:	White Vinegar	1 C.	237 ml.
	Denatured Alcohol or Isopropyl Alcohol	1 qt.	1 L.

Mixing: Stir both ingredients together.

Use: Apply to rug with a sponge-head mop. Rinse with clean water.

CAUTIONS: Isopropyl and denatured alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

SILVER ANTITARNISH BAGS

Ingredients:	Cadmium Acetate	1/4 C.	57 g.
	Water	1 qt.	1 L.
	Flannel Cloth		

Mixing: Stir cadmium acetate into water until dissolved. Soak flannel cloth in this solution and hang up to dry.

Use: When cloth is dry, either sew into a bag or else wrap silver in this treated cloth to prevent tarnishing.

CAUTIONS: Cadmium acetate is highly toxic in concentrated form.

Notes:

SILVER CLEANER AND POLISH

Ingredients:	Water	1-1/2 C.	355 ml.
	Stearic Acid	2 T.	28 g.
	Soda Ash	1/2 t.	2 g.
	Trisodium Phosphate	1/2 t.	2 g.
	Diatomaceous Earth	1 C.	227 g.

Mixing: Heat water and stearic acid in the top of a double boiler until the acid melts. Turn off the heat and add soda ash, trisodium phosphate, and diatomaceous earth. Stir into a creamy paste. Cool and store in glass or plastic jars.

Use: Rub silver with this paste using a soft cloth. Rinse silver off with clean, warm water.

CAUTIONS: Trisodium phosphate is an irritant to skin and moderately toxic by ingestion. Use rubber gloves.

Notes:

STOVE CLEANER AND POLISH

Ingredients:	Trisodium Phosphate	1/4 C.	57 g.
	Soda Ash	1/4 C.	57 g.
	Sodium Perborate	1/2 C.	113 g.

Mixing: Mix three ingredients together.

Use: Dip damp cloth or sponge into mixture, rub over area to be cleaned, and rinse with cloth rung-out in clear water.

CAUTIONS: Trisodium phosphate is an irritant to skin and moderately toxic by ingestion. Use rubber gloves.

Notes:

TOILET BOWL CLEANER I

Ingredients:	Caustic Soda	1-1/2 C.	340 g.
	Powdered Alum	3/4 C.	170 g.
	Sodium Chloride	1/4 C.	57 g.

Mixing: Mix all together and store in an airtight container.

Use: Flush toilet to get sides wet, then sprinkle mixture in bowl. Allow to stand for at least 10 minutes and scrub out with a brush and flush once more.

CAUTIONS: Caustic soda heats on contact with water and can cause severe skin burns. Handle carefully. If a burn or stinging sensation does occur, flush for several minutes with clear water. Store in an airtight container.

Notes:

TOILET BOWL CLEANER II

Ingredients:	Caustic Soda	3/4 C.	170 g.
	Sodium Bicarbonate (Baking Soda)	4 C.	908 g.

Mixing: Mix ingredients together and store in an airtight container.

Use: Flush toilet to get sides wet, then sprinkle mixture in bowl. Allow to stand for at least 10 minutes and scrub out with a brush and flush once more.

CAUTIONS: Caustic soda heats on contact with water and can cause severe burns to skin. Handle with care. If burn or stinging sensation does occur, flush for several minutes with clear water. Store in an airtight container.

Notes:

TYPE CLEANER

Ingredients:	Denatured Alcohol, or Isopropyl Alcohol	1-1/2 C.	355 ml.
	Water	1 C.	237 ml.

Mixing: Stir together. Store in airtight containers.

Use: Saturate a small portion of a clean cloth with this mixture and rub over the type. Clean and dry with a dry end of the same cloth.

CAUTIONS: Isopropyl and denatured alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

UPHOLSTERY CLEANER

Ingredients:	Oil Soap	1/4 C	59.0 ml.
	Borax	1 T.	14.0 g.
	Glycerin	1/4 C.	59.0 ml.
	Ethylene Chloride	2 T.	30.0 ml.
	Hot Water	3 qt.	2.8 L.

Mixing: Add oil soap to hot water and stir gently. Then add borax, glycerin, and ethylene chloride, mixing well. Cool and store in bottles.

Use: Apply a small amount with a sponge and rinse with clean water.

CAUTIONS: Ethylene chloride is toxic by ingestion, inhalation, and may be absorbed through the skin. It is also an irritant to skin or eyes. Use due caution when handling.

Notes:

VINYL CLEANER

Ingredients:	Calcium Carbonate (Chalk)	1 C.	227 g.
	Bicarbonate of Soda (Baking Soda)	3 C.	681 g.

Mixing: Stir together.

Use: Sprinkle on a damp cloth or sponge and rub on the area to be cleaned. Rinse with clean water.

Notes:

WALL CLEANER

Ingredients:	Soda Ash	1 C.	227 g.
	Ammonium Sulfate	1 T.	15 g.

Mixing: Stir ingredients together and store in container.

Use: Use 2 tablespoons (28 g.) of mixture per 1 quart (1 L.) water.

Notes:

WALLPAPER CLEANER

Ingredients:	Wheat or Corn Flour	14 oz.	392 g.
	Copper Sulfate	1-1/2 oz.	42 g.
	Powdered Alum (Aluminum Potassium Sulfate)	1/4 oz.	7 g.
	Boiling Water	1 gal.	4 L.

Mixing: Mix chemicals into boiling water. Allow to cool.

Use: Apply with brush or cloth to surface and remove with a damp sponge or cloth.

CAUTIONS: Copper sulfate is highly toxic by inhalation and ingestion. Use with care.

Notes:

WINDOW CLEANING POWDER

Ingredients:	Borax	1-3/4 C.	397 g.
	Sodium Metaphosphate	3 T.	42 g.

Mixing: Mix borax and sodium metaphosphate.

Use: Pick up a small amount with a damp cloth or sponge and wipe windows. Rinse off with clean water.

Notes:

WINDOW CLEANING SPRAY I

Ingredients:	Ethylene Glycol	2 T.	30 ml.
	Water	3 C.	711 ml.

Mixing: Stir ethylene glycol into water.

Use: Spray on windows and wipe with squeegee or lintfree cloth.

CAUTIONS: Family pets love this because it is sweet. It turns to oxalic acid in their bodies and can kill them. Keep pets away when using mixture, and dispose of excess carefully.

Notes:

WINDOW CLEANING SPRAY II

Ingredients:	Liquid Detergent	1-1/2 t.	7.5 ml.
	Water	1 gal.	3.8 L.
	Denatured Alcohol or Isopropyl Alcohol	5 T.	75.0 ml.

Mixing: Gently stir the liquid detergent into water; then add denatured or isopropyl alcohol. Store in bottles.

Use: Spray or sponge liberally on windows and wipe off with a squeegee or cloth.

CAUTIONS: Isopropyl and denatured alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

WINDOW CLEANING SPRAY III

Ingredients:	Denatured Alcohol or Isopropyl Alcohol	1 C.	237.0 ml.
	Water	2 C.	474.0 ml.
	Lactic Acid	5 Drops	0.5 ml.

Mixing: Mix denatured or isopropyl alcohol with water; then stir in lactic acid. A drop or two of regular laundry bluing may be added for blue color if desired.

Use: Spray on windows, mirrors, and so on.

CAUTIONS: Denatured and isopropyl alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

WOODWORK CLEANER

Ingredients:	Oleic Acid	1-1/2 C.	355 ml.
	Triethanolamine	1/2 C.	118 ml.

Mixing: Mix chemicals together and store in an airtight container.

Use: Use 2 tablespoons (30 ml.) to 1 gallon (3.8 L.) of warm water, and apply with a cloth or sponge.

CAUTIONS: Triethanolamine may be somewhat irritating to skin and mucous membranes.

Notes:

BLEACH

Ingredients:	Chlorinated Lime	2 C.	454.0 g.
	Soda Ash (Sodium Carbonate)	3 C.	681.0 g.
	Water	1 gal.	3.8 L.

Mixing: Mix chlorinated lime and sodium ash into water, stirring well. Allow to stand for 24 hours and strain into bottles.

Use: Use 1/4 cup (57 g.) per average load of white laundry.

CAUTIONS: Chlorinated lime forms chlorine when mixed with water and is a skin irritant.

Notes:

BLUING

Ingredients:	Ultramarine Blue	3-3/4 C.	851 g.
	Sodium Bicarbonate (Baking Soda)	2-1/2 C.	567 g.
	Corn Syrup	3/4 C.	177 ml.

Mixing: Stir ultramarine blue and sodium bicarbonate into corn syrup until dissolved.

Use: Mix small amount, about 1/2 teaspoon (2 g.), in the wash load to help brighten clothes.

Notes:

ENZYME-ACTIVE DETERGENT

Ingredients:	Pancreatin	1/4 C.	57 g.
	Sodium Chloride (Salt)	1/4 C.	57 g.
	Soda Ash (Sodium Carbonate)	3-1/2 C.	794 g.
	Sodium Alginate	1 C.	227 g.

Mixing: Mix ingredients thoroughly and store in any large container with a lid.

Use: Use 1 cup (227 g.) in average top-loading machine.

Notes:

LOW SUDSING DETERGENT

Ingredients:	Lauryl Pyridinium Chloride	3-3/4 C.	851.0 g.
	Sodium Dodecylbenzene Sulfate	2-1/2 C.	567.0 g.
	Sodium Tripolyphosphate	10-1/2 C.	2.4 kg.
	Sodium Bicarbonate (Baking Soda)	8 C.	1.8 kg.

Mixing: Mix ingredients thoroughly and store in any large container with a lid.

Use: Use 1 cup (227 g.) in average top-loading machine.

CAUTIONS: Lauryl pyridinium chloride may be mildly irritating to skin.

Notes:

DRY-CLEANING FLUID

Ingredient:	Stoddard Solvent	1 gal.	3.8 L.

Use: Place garments to be cleaned in a shallow pan, cover with fluid, and agitate gently, for about 5 minutes. Wring out and air-dry.

CAUTIONS: Stoddard solvent is moderately flammable; exercise caution.

Notes:

FABRIC SOFTENER

Ingredients:	Denatured Alcohol	1 C.	237 ml.
	Water	1 C.	237 ml.
	Lauryl Pyridinium Chloride	4 C.	908 g.

Mixing: Mix denatured alcohol and water, and dissolve lauryl pyridinium chloride in this mixture.

Use: Add 2 tablespoons (28 g.) to rinse water.

CAUTIONS: Lauryl pyridinium chloride may be mildly irritating to skin. Denatured alcohol may be toxic by ingestion and is flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

LAUNDRY GLOSS

Ingredients:	Acacia (Gum Arabic)	1 T.	14 g.
	Water	1 pt.	474 ml.
	Borax	1 oz.	28 g.
	Glycerin	1 T.	15 ml.

Mixing: Soak acacia in water overnight. Add borax, stir and bring to boil. Remove from heat and add glycerin; cool and strain.

Use: Add 1 tablespoon (15 ml.) to 1 pint (473 ml.) of starch. This improves the starch and provides a smoother finish when ironing.

Notes:

LAUNDRY HELPER

Ingredients:	Mason Sand	5 C.	1.1 kg.
	Soda Ash	3 C.	681.0 g.

Mixing: Stir ingredients together.

Use: Use 1 or 2 tablespoons (14 or 28 g.) per wash load. The gentle scrubbing action of these solid ingredients greatly increases the cleaning action of soap or detergent.

Notes:

IRONING AID

Ingredients:	Silicone Oil Emulsion	1 t.	5 ml.
	Distilled Water	1 qt.	1 L.

Mixing: Stir silicone oil emulsion into distilled water.

Use: Spray a fine mist onto a cold iron. Then heat the iron until the water steams off the bottom. The iron is then ready for use.

Notes:

MOLD STAIN REMOVER

Ingredients:	Household Ammonia	1 t.	5 ml.
	Hydrogen Peroxide	4 T.	60 ml.
	Water	3/4 C.	177 ml.

Mixing: Mix household ammonia and hydrogen peroxide into water.

Use: Thoroughly wet the mold-stained spot with this mixture and allow to soak for 5 minutes. Rinse well with clean water and repeat if necessary.

CAUTIONS: Avoid vapors of household ammonia. Hydrogen peroxide is highly toxic in concentrated form; relatively low toxicity in dilute aqua solution.

Notes:

STARCH

Ingredients:	Corn Starch	1 C.	227 g.
	Wheat Starch	1/2 C.	113 g.

Mixing: Stir ingredients together.

Use: Dissolve 2 teaspoons (8 g.) in 1 cup (237 ml.) of water. Sprinkle or spray on clothing before ironing. Proportions can be adjusted to suit different requirements or tastes.

Notes:

WATER SOFTENER

Ingredients:	Soda Ash	3 C.	681.0 g.
	Sodium Silicate (Waterglass)	6 C.	1.4 L.

Mixing: Stir soda ash into sodium silicate.

Use: This is a concentrated mixture. Use about 1/2 teaspoon (2 g.) for 5 gallons (19 L.) of water, depending on the hardness. You will have to experiment a little to find the right proportion for your particular water.

CAUTIONS: Sodium silicate may be irritating and caustic to skin and mucous membranes.

Notes:

ANIMAL SOIL STAIN REMOVER

Ingredients:	Sodium Perborate	1 T.	14 g.
	Soap Powder	1 T.	14 g.
	Water	1 C.	237 ml.

Mixing: Dissolve sodium perborate and soap powder into water.

Use: Soak stained area for 5 minutes, then wipe off with damp sponge and wash normally.

Notes:

COFFEE AND ALCOHOL STAIN REMOVER

Ingredients:	Glycerin	1 T.	15 ml.
	Denatured Alcohol or Isopropyl Alcohol	1 T.	15 ml.
	Water	3 T.	45 ml.
	Ammonium Chloride	1 T.	14 g.

Mixing: Mix glycerin, denatured or isopropyl alcohol, and water, then add ammonium chloride and stir until dissolved.

Use: Saturate spot with mixture and let stand for 5 minutes, then rinse well with clean water.

CAUTIONS: Denatured and isopropyl alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

EGG-YOLK STAIN REMOVER

Ingredients:	Glycerin	1 T.	15 ml.
	Denatured Alcohol or Isopropyl Alcohol	1/4 C.	59 ml.
	Powdered Soap	1/4 C.	57 g.

Mixing: Combine the three ingredients.

Use: Rub the mixture into stained area and allow to stand for 5 minutes, then rinse with clean water.

CAUTIONS: Denatured and isopropyl alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

GRASS STAIN REMOVER

Ingredient: Denatured Alcohol or Isopropyl Alcohol

Use: Wash material with grass stain, using denatured alcohol, then rinse well with clean water.

CAUTIONS: Denatured and isopropyl alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

INK STAIN REMOVER

Ingredients:	Ammonium Hydroxide	1 T.	15 ml.
	Hydrogen Peroxide	1 T.	15 ml.

Mixing: Mix ingredients together.

Use: Soak stain with mixture, allow to stand for 5 minutes, and rinse well with clean water.

CAUTIONS: Hydrogen peroxide is highly toxic in concentrated form; relatively low toxicity in dilute aqua solution.

Notes:

IRONING SCORCH STAIN REMOVER

Ingredients:	Hydrogen Peroxide	1/2 C.	118 ml.
	Water	1/2 C.	118 ml.

Mixing: Stir ingredients together.

Use: Soak scorched spot with mixture for 10 or 15 minutes, then soak in clean water for 45 minutes.

CAUTIONS: Hydrogen peroxide is highly toxic in concentrated form; relatively low in dilute aqua solution.

Notes:

MILDEW STAIN REMOVER

Ingredients:	Hydrogen Peroxide	4 T.	60 ml.
	Ammonium Chloride	1 T.	15 ml.
	Denatured Alcohol or Isopropyl Alcohol	2-1/2 T.	37 ml.
	Water	1 C.	237 ml.

Mixing: Mix hydrogen peroxide, ammonium chloride, denatured or isopropyl alcohol into water.

Use: Soak stained area in mixture for 5 minutes, rinse well with clean water, and repeat if necessary.

CAUTIONS: Hydrogen peroxide is highly toxic in concentrated form; relatively low toxicity in dilute aqua solution. Isopropyl and denatured alcohol may be toxic by ingestion and are flammable.

Notes: For proper grade of alcohol, see Appendix 4, *Denatured Alcohol.*

PERSPIRATION STAIN REMOVER

Ingredients:	Sodium Perborate	2 T.	30 g.
	Water	2 C.	474 ml.

Mixing: Dissolve sodium perborate in water.

Use: Test on small area of fabric for color fastness before applying to stained area. After stain is removed, rinse with clean water.

Notes:

RUST STAIN REMOVER

Ingredients:	Potassium Persulfate	1-1/2 T.	21 g.
	Water	1 pt.	474 ml.

Mixing: Dissolve potassium persulfate in water.

Use: Saturate spot with mixture for 5 minutes, then rinse well with clean water.

CAUTIONS: Potassium persulfate is moderately toxic.

Notes:

URINE STAIN REMOVER

Ingredient: 10% Citric Acid Solution

Use: Saturate stained area with solution for 5 minutes, then rinse well with clean water.

Notes:

"I can't explain now, but don't take your jacket off at work."

In those formulas in which it is felt that there is a possibility of allergic reaction, it is suggested that the formulas be applied to a small test area to determine if an allergic reaction takes place and if it does, use should be discontinued. However, if the reader or user of the formula is prone to allergic reactions, all personal products should be tested in this way.

It is also suggested that all containers and mixing utensils for personal care formulas, especially those used near the eyes, should be sterilized or at least thoroughly washed.

ACNE LOTION

Ingredients:	Isopropyl Alcohol	3 T.	45.0 ml.
	Distilled Water	6 T.	90.0 ml.
	Glycerin	1 t.	5.0 ml.
	Triethanolamine	1/8 t.	0.6 ml.

Mixing: Stir all ingredients together.

Use: Apply to problem areas with a cotton swab.

CAUTIONS: Isopropyl alcohol may be toxic by ingestion and is flammable. The triethanolamine may be somewhat irritating to skin and mucous membranes.

Notes: For discussion on grades of alcohol, see Appendix 4, *Denatured Alcohol.*

ADHESIVE TAPE REMOVAL FROM SKIN

Ingredient: Methyl Salicylate (Oil of Wintergreen)

Use: Apply a small amount of oil to area where tape adheres to skin and pull gently. The tape will come off easily and painlessly.

CAUTIONS: Methyl salicylate is highly toxic by ingestion in concentrated form.

Notes:

AFTER-SHAVE LOTION

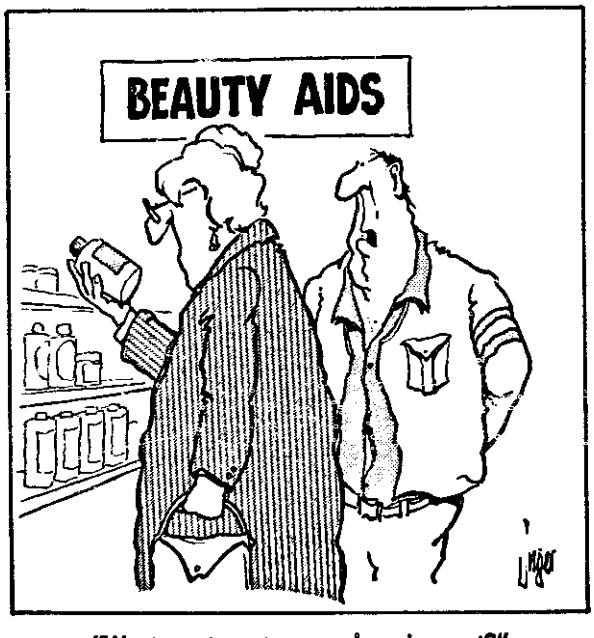
Ingredients:	Boric Acid	1 t.	4 g.
	Glycerin	2 T.	30 ml.
	Water	2 C.	474 ml.
	Water-base Perfume	to suit	
	Isopropyl Alcohol	1 C.	237 ml.

Mixing: Stir boric acid, glycerin and perfume into water, then stir in isopropyl alcohol.

Use: Splash on face after shaving.

CAUTIONS: Isopropyl alcohol may be toxic by ingestion and is flammable.

Notes: For discussion on grades of alcohol, see Appendix 4, *Denatured Alcohol.*



"Want me to get you a shopping cart?"

AFTER-SHAVE FACE TALC

Ingredients:	Talc	2 C.	454 g.
	Boric Acid	1 T.	14 g.
	Magnesium Stearate	5 t.	20 g.
	Zinc Oxide	1 T.	14 g.
	Oil-base Perfume	to suit	

Mixing: Mix ingredients together with a fork and sift through a flour sifter.

Use: Apply after shaving as a soothing dust-on talc.

CAUTIONS: Zinc oxide is poisonous if taken internally.

Notes:

ANALGESIC SALVE

Ingredients:	Anhydrous Lanolin	1-3/4 C.	398 g.
	Menthol	1/4 C.	57 g.
	Methyl Salicylate (Wintergreen Oil)	1/4 C.	59 ml.

Mixing: Heat anhydrous lanolin in the top of a double boiler until it melts, then stir in menthol and methyl salicylate. Cool until it just begins to solidify, then put in jars. Allow to cool, room temperature, uncovered and cover when cool.

Use: Use a small amount to rub into sore muscles.

CAUTIONS: Methyl salicylate is highly toxic by ingestion in concentrated form.

Notes:

ANTACID LIQUID

Ingredients:	Sodium Bicarbonate (Baking Soda)	1 T.	14 g.
	Sugar	1 T.	14 g.
	Peppermint Oil	10 Drops	1 ml.
	Water	2 C.	474 ml.

Mixing: Mix sodium bicarbonate, sugar, and peppermint oil into water.

Use: Take 1 or 2 teaspoons (5 to 10 ml.) to relieve indigestion.

Notes:

ANTICHAP STICK FOR LIPS

Ingredients:	Beeswax	1/4 C.	57 g.
	Castor Oil	1/4 C.	59 ml.
	Sesame Oil	3 T.	45 ml.
	Anhydrous Lanolin	2 T.	28 g.

Mixing: Melt beeswax in the top of a double boiler. When melted, stir in remaining ingredients. Partially cool and pour into small molds.

Use: Rub on lips to protect them from harsh weather.

Notes: The molds for this and the following formula can be made from small match boxes. (Lipstick does not have to be round.)

ANTICHAP STICK FOR LIPS II

Ingredients:	Beeswax	4 oz.	112 g.
	Castor Oil	3 oz.	84 g.
	Cocoa Butter	2 oz.	56 g.
	Anhydrous Lanolin	1/2 oz.	14 g.
	Mineral Oil	1/2 oz.	14 g.

Mixing: Melt all ingredients together in the top of a double boiler over low heat. When thoroughly mixed, allow the mass to cool down to just above the solidification point and pour into suitable molds.

Use: Rub on lips to protect them from harsh weather.

Notes:

ANTIPERSPIRANT LIQUID I

Ingredients:	Oxyquinoline Sulfate	1 T.	14 g.
	Water	1 pt.	434 ml.

Mixing: Mix the oxyquinoline sulfate into water until dissolved.

Use: This liquid may be applied with a plastic spray bottle, ball of cotton, or flannel pads.

CAUTIONS: Oxyquinoline sulfate is moderately toxic in concentrated form.

Notes:

ANTIPERSPIRANT LIQUID II

Ingredients:	Isopropyl Alcohol	1/2 C.	118 ml.
	Water	2-1/2 C.	592 ml.
	Powdered Alum (Aluminum Potassium Sulfate)	1 T.	14 g.
	Zinc Oxide, Powdered	1 T.	14 g.

Mixing: Mix isopropyl alcohol and water, then stir in powdered alum and zinc oxide. Store in an airtight container.

Use: Dab on with cotton swab, or put in plastic spray bottle and spray on.

CAUTIONS: Isopropyl alcohol may be toxic by ingestion and is flammable. Zinc oxide is poisonous if taken internally.

Notes: For discussion on grades of alcohol, see Appendix 4, *Denatured Alcohol.*

ANTIPERSPIRANT LIQUID III

Ingredients:	Aluminum Potassium Sulfate (Powdered Alum)	3 T.	42 g
	Water	2 C.	474 ml.

Mixing: Stir aluminum potassium sulfate into water.

Use: Apply to underarms with a plastic spray bottle, ball of cotton, or flannel pads.

Notes:

ANTIPERSPIRANT POWDER I

Ingredients:	Oxyquinoline Sulfate	1-1/4 C.	284 g.
	Talc	2 T.	28 g.

Mixing: Mix ingredients together with a fork.

Use: Dust on or the powder may be sprayed from a plastic squeeze bottle if the bottle is only filled half-full.

CAUTIONS: Oxyquinoline sulfate is moderately toxic in concentrated form.

Notes:

ANTIPERSPIRANT POWDER II

Ingredients:	Aluminum Potassium Sulfate (Alum)	1 T.	14 g.
	Boric Acid	1/4 C.	57 g.
	Talc	1/3 C.	76 g.

Mixing: Mix the ingredients together with a fork.

Use: Dust on or the powder may be sprayed from a plastic squeeze bottle if the bottle is only filled half-full.

Notes:

ANTISEPTIC FOR POISON IVY AND OAK RASH

Ingredients:	Water	4 oz.	120 ml.
	Isopropyl Alcohol	6 oz.	180 ml.
	Ferric Chloride	1/2 oz.	14 g.

Mixing: Mix water and isopropyl alcohol and then add ferric chloride while stirring.

Use: Wash affected areas with this solution.

CAUTIONS: Isopropyl alcohol may be moderately toxic by ingestion and is flammable. Ferric chloride is mildly toxic.

Notes: For discussion on grades of alcohol, see Appendix 4, *Denatured Alcohol.*

ASTRINGENT SKIN CREAM

Ingredients:	Mineral Oil	2 C.	474 ml.
	White Beeswax	1/2 C.	113 g.
	Water	1 C.	237 ml.
	Borax	1-1/2 T.	21 g.
	Aluminum Potassium Sulfate (Powdered Alum)	2 T.	28 g.

Mixing: Heat mineral oil and white beeswax in the top of a double boiler until the beeswax melts. Stir to mix the two and cool down to 120° F. In a separate pan, heat water to 120° F. and slowly stir in borax and aluminum potassium sulfate. Then slowly pour the second mixture into the first, stirring gently all the while. Cool until it just starts to solidify, pour into jars, cool to room temperature, and cover.

Use: Use this cream to smooth and tighten skin around the neck, elbows, wrists, and ankles.

Notes:

ASTRINGENT SKIN LOTION

Ingredients:	Water	3 C.	711 ml.
	Glycerin	1 T.	15 ml.
	Aluminum Potassium Sulfate (Alum)	2 T.	28 g.

Mixing: Mix water and glycerin, then add aluminum potassium sulfate, stirring until it is dissolved.

Use: A refreshing astringent.

Notes:

ASTRINGENT LOTION, GENERAL PURPOSE

Ingredients:	Vodka	2 oz.	60 ml.
	Glycerin	1/4 oz.	7 ml.
	Water	12 oz.	360 ml.
	Aluminum Potassium Sulfate (Alum)	1/2 oz.	14 g.
	Water-soluble Perfume	to suit	

Mixing: Mix vodka and glycerin into water and stir. Add aluminum potassium

ATHLETE'S FOOT OINTMENT

Ingredients:	Anhydrous Lanolin	1 C.	227 g.
	Flowers of Sulfur	1 T.	14 g.

Mixing: Heat anhydrous lanolin in the top of a double boiler until it melts, then stir in flowers of sulfur, mixing well. Allow to cool until it just starts to solidify, then pour into jars, and cool to room temperature.