





THE CHEMICAL FORMULARY



# The Chemical Formulary

*A Collection of Valuable, Timely, Practical,  
Commercial Formulae and Recipes for  
Making Thousands of Products in  
Many Fields of Industry*

VOLUME XII

*Editor-in-Chief*

**H. BENNETT, F.A.I.C.**

*Director, B. R. Laboratory  
Miami Beach, Florida*



1965

CHEMICAL PUBLISHING CO., INC.  
212 FIFTH AVENUE      NEW YORK, N. Y.

## **The Chemical Formulary, Volume XII**

© 2011 by Chemical Publishing Co., Inc. All rights reserved. This book is protected by copyright. No part of it may be reproduced, stored in a retrieval system or transmitted in any form or by any means; electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher.

ISBN: 978-0-8206-0066-6

Chemical Publishing Company:  
[www.chemical-publishing.com](http://www.chemical-publishing.com)  
[www.chemicalpublishing.net](http://www.chemicalpublishing.net)

© 1965 H.Bennett

First Edition:

© **Chemical Publishing Company, Inc.** - New York 1965-2011

Second Impression:

**Chemical Publishing Company, Inc.** - 2011

Printed in the United States of America

## PREFACE TO VOLUME XII

This new volume of the CHEMICAL FORMULARY series is a collection of new, up-to-date formulae. The only repetitious material is the introduction (Chapter I) which is used in every volume for the benefit of those who may have bought only one volume and who have no educational background or experience in chemical compounding. The simple basic formulae and compounding methods given in the introduction will serve as a guide for beginners and students. It is suggested that they read the introduction carefully and even make a few preparations described there before compounding the more intricate formulae included in the later chapters.

The list of chemicals and their suppliers has been enlarged with new trade-mark chemicals, so that buying the required ingredients will present no problem.

Grateful acknowledgement is made to the Board of Editors for their valuable suggestions and contributions.

H. BENNETT

NOTE: All the formulae in volumes I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII (except in the introduction) are different. Thus, if you do not find what you are looking for in this volume, you may find it in one of the others.

NOTE: This book is the result of cooperation of many chemists and engineers who have given freely of their time and knowledge. It is their business to act as consultants and to give advice on technical matters for a fee. As publishers, we do not maintain a laboratory or consulting service to compete with them. Therefore, please do not ask *us* for advice or opinions, but confer with a chemist.

Formulae for which patent numbers are listed can be manufactured only after obtaining a license from the patentees.





## PREFACE

Chemistry, as taught in our schools and colleges, concerns chiefly synthesis, analysis, and engineering — and properly so. It is part of the right foundation for the education of the chemist.

Many a chemist entering an industry soon finds that most of the products manufactured by his concern are not synthetic or definite chemical compounds, but are mixtures, blends, or highly complex compounds of which he knows little or nothing. The literature in this field, if any, may be meager, scattered, or obsolete.

Even chemists with years of experience in one or more industries spend considerable time and effort in acquainting themselves with any new field which they may enter. Consulting chemists similarly have to solve problems brought to them from industries foreign to them. There was a definite need for an up-to-date compilation of formulae for chemical compounding and treatment. Since the fields to be covered are many and varied, an editorial board of chemists and engineers engaged in many industries was formed.

Many publications, laboratories, manufacturing firms, and individuals have been consulted to obtain the latest and best information. It is felt that the formulae given in this volume will save chemists and allied workers much time and effort.

Manufacturers and sellers of chemicals will find, in these formulae, new uses for their products. Nonchemical executives, professional men, and interested laymen will make through this volume a "speaking acquaintance" with products which they may be using, trying, or selling.

It often happens that two individuals using the same ingredients in the same formula get different results. This may be due to slight deviations in the raw materials or unfamiliarity with the intricacies of a new technique. Accordingly, repeated experiments may be

necessary to get the best results. Although many of the formulae given are being used commercially, many have been taken from the literature and may be subject to various errors and omissions. This should be taken into consideration. Wherever possible, it is advisable to consult with other chemists or technical workers regarding commercial production. This will save time and money and help avoid trouble.

A formula will seldom give exactly the results which one requires. Formulae are useful as starting points from which to work out one's own ideas. Also, formulae very often give us ideas which may help us in our specific problems. In a compilation of this kind, errors of omission, commission, and printing may occur. I shall be glad to receive any constructive criticism.

H. BENNETT

## CONTENTS

1. Introduction	13
2. Adhesives	41
3. Ceramics and Glass	73
4. Cosmetics and Drugs	98
5. Disinfectants and Deodorants	274
6. Emulsions	277
7. Farm and Garden Specialties	291
8. Food Products	303
9. Inks and Carbon Paper	392
10. Lubricants	413
11. Metals	416
12. Paint and Varnish	447
Appendix:	
Tables	483
Trademark Chemicals	484
Chemicals and Supplies	485
Sellers of Chemicals and Supplies	491
Index	495



## ABBREVIATIONS

amp	ampere
amp /dm <sub>2</sub>	amperes per square decimeter
amp /sq ft	amperes per square foot
anhydr	anhydrous
avoir	avoirdupois
bbl	barrel
Bé	Baumé
B.P.	boiling point
°C	degrees Centigrade
cc	cubic centimeter
cd	current density
cm	centimeter
cms	cubic centimeter
conc	concentrated
c.p.	chemically pure
cp	centipoise
cu. ft	cubic foot
cu. in.	cubic inch
cwt	hundredweight
d	density
dil	dilute
dm	decimeter
dm <sup>2</sup>	square decimeter
dr	dram
E	Engler
°F	degrees Fahrenheit
ffo	free from chlorine
ffpa	free from prussic acid
fl dr	fluid dram
fl oz	fluid ounce
fl pt	flash point
F.P.	freezing point
ft	foot
ft <sup>2</sup>	square foot
g	gram

---

gal	gallon
gr	grain
hl	hectoliter
hr	hour
in.	inch
kg	kilogram
l.	liter
lb	pound
liq	liquid
m	meter
min	minim, minute
ml	milliliter (cubic centimeter)
mm	millimeter
M.P.	melting point
N.	Normal
N F	National Formulary
oz	ounce
pH.	hydrogen-ion concentration
p p m	parts per million
pt	pint
pwt	pennyweight
q.s.	a quantity sufficient to make
qt	quart
r p m	revolutions per minute
sec	second
sp	spirits
Sp. Gr.	specific gravity
sq dm	square decimeter
tech	technical
tinc	tincture
tr	tincture
Tw	Twaddell
U S P	United States Pharmacopeia
v	volt
visc	viscosity
vol	volume
wt	weight

## CHAPTER I

### INTRODUCTION

The following introductory matter has been included at the suggestion of teachers of chemistry and home economics.

This section will enable anyone, with or without technical education or experience, to start making simple products without any complicated or expensive machinery. For commercial production, however, suitable equipment is necessary.

Chemical specialties are composed of pigments, gums, resins, solvents, oils, greases, fats, waxes, emulsifying agents, dyestuffs, perfumes, water, and chemicals of great diversity. To compound certain of these with some of the others requires definite and well-studied procedures, any departure from which will inevitably result in failure. The steps for successful compounding are given with the formulae. Follow them rigorously. If the directions require that (a) is added to (b), carry this out literally, and do not reverse the order. The preparation of an emulsion is often quite as tricky as the making of mayonnaise. In making mayonnaise, you add the oil to the egg, slowly, with constant and even stirring. If you do it correctly, you get mayonnaise. If you depart from any of these details: If you add the egg to the oil, or pour the oil in too quickly, or fail to stir regularly, the result is a complete disappointment. The same disappointment may be expected if the prescribed procedure of any other formulation is violated.

The point next in importance is the scrupulous use of the proper ingredients. Substitutions are sure to result in inferior quality, if not in complete failure. Use what the formula calls for. If a cheaper

---

product is desired, do not prepare it by substituting a cheaper ingredient for the one prescribed: use a different formula. Not infrequently, a formula will call for an ingredient which is difficult to obtain. In such cases, either reject the formula or substitute a similar substance only after a preliminary experiment demonstrates its usability. There is a limit to which this rule may reasonably be extended. In some cases, substitution of an equivalent ingredient may be made legitimately. For example, when the formula calls for white wax (beeswax), yellow wax can be used, if the color of the finished product is a matter of secondary importance. Yellow beeswax can often replace white beeswax, making due allowance for color, but paraffin wax will not replace beeswax, even though its light color seems to place it above yellow beeswax.

And this leads to the third point: the use of good-quality ingredients, and ingredients of the correct quality. Ordinary lanolin is not the same thing as anhydrous lanolin. The replacement of one with the other, weight for weight, will give discouragingly different results. Use exactly what the formula calls for: if you are not acquainted with the substance and you are in doubt as to just what is meant, discard the formula and use one you understand. Buy your chemicals from reliable sources. Many ingredients are obtainable in a number of different grades: if the formula does not designate the grade, it is understood that the best grade is to be used. Remember that a formula and the directions can tell you only part of the story. Some skill is often required to attain success. Practice with a small batch in such cases until you are sure of your technique. Many examples can be cited. If the formula calls for steeping quince seed for 30 minutes in cold water, steeping for 1 hour may yield a mucilage of too thin a consistency. The originator of the formula may have used a fresher grade of seed, or his conception of what "cold" water means may be different from yours. You should have a feeling for the right degree of mucilaginousness, and if steeping the seed for 30 minutes fails to produce it, steep them longer until you get the right kind of mucilage. If you do not know what the right kind is, you will have to experiment until you find out. This is the reason for the recommendation to make small experimental batches until successful results are obtained. Another case is the use of



dyestuffs for coloring lotions and the like. Dyes vary in strength; they are all very powerful in tinting value; it is not always easy to state in quantitative terms how much to use. You must establish the quantity by carefully adding minute quantities until you have the desired tint. Gum tragacanth is one of those products which can give much trouble. It varies widely in solubility and bodying power; the quantity listed in the formula may be entirely unsuitable for your grade of tragacanth. Therefore, correction is necessary, which can be made only after experiments with the available gum.

In short, if you are completely inexperienced, you can profit greatly by experimenting. Such products as mouth washes, hair tonics, and astringent lotions need little or no experience, because they are, as a rule, merely mixtures of simple liquid and solid ingredients, which dissolve without difficulty and the end product is a clear solution that is ready for use when mixed. However, face creams, tooth pastes, lubricating greases, wax polishes; etc., whose formulation requires relatively elaborate procedure and which must have a definite final viscosity, need some skill and not infrequently some experience.

#### *Figuring*

Some prefer proportions expressed by weight or volume, others use percentages. In different industries and foreign countries different systems of weights and measures are used. For this reason, no one set of units could be satisfactory for everyone. Thus divers formulae appear with different units, in accordance with their sources of origin. In some cases, parts are given instead of percentage or weight or volume. On the pages preceding the index, conversion tables of weights and measures are listed. These are used for changing from one system to another. The following examples illustrate typical units:

#### EXAMPLE No. 1

#### Ink for Marking Glass

Glycerin	40	Ammonium Sulfate	10
Barium Sulfate	15	Oxalic Acid	8
Ammonium Bifluoride	15	Water	12

Here no units are mentioned. In this case, it is standard practice

to use parts by weight throughout. Thus here we may use ounces, grams, pounds, or kilograms as desired. But if ounces are used for one item, the ounce must be the unit for all the other items in the formula.

## EXAMPLE No. 2

## Flexible Glue

Powdered Glue	30.90%	Glycerin	5.15%
Sorbitol (85%)	15.45%	Water	48.50%

Where no units of weight or volume, but percentages are given, forget the percentages and use the same method as given in Example No. 1.

## EXAMPLE No. 3

## Antiseptic Ointment

Petrolatum	16 parts	Benzoic Acid	1 part
Coconut Oil	12 parts	Chlorothymol	1 part
Salicylic Acid	1 part		

The instructions given for Example No. 1 also apply to Example No. 3. In many cases, it is not wise to make up too large a quantity of a product before making a number of small batches to first master the necessary technique and also to see whether the product is suitable for the particular purpose for which it is intended. Since, in many cases, a formula may be given in proportions as made up on a factory scale, it is advisable to reduce the quantities proportionately.

## EXAMPLE No. 4

## Neutral Cleansing Cream

Mineral Oil	80 lb	Water	90 lb
Spermaceti	30 lb	Glycerin	10 lb
Glyceryl Monostearate	24 lb	Perfume	To suit

Here, instead of pounds, ounces or even grams may be used. This formula would then read:

Mineral Oil	80 g	Water	90 g
Spermaceti	30 g	Glycerin	10 g
Glyceryl Monostearate	24 g	Perfume	To suit

---

Reduction in bulk may also be obtained by taking the same fractional part or portion of each ingredient in a formula. Thus in the following formula:

## EXAMPLE No. 5

## Vinegar Face Lotion

Acetic Acid (80%)	20	Alcohol	440
Glycerin	20	Water	500
Perfume	20		

We can divide each amount by ten and then the finished bulk will be only one tenth of the original formula. Thus it becomes:

Acetic Acid (80%)	2	Alcohol	44
Glycerin	2	Water	50
Perfume	2		

*Apparatus*

For most preparations, pots, pans, china, and glassware, which are used in every household, will be satisfactory. For making fine mixtures and emulsions, a malted- milk mixer or egg beater is necessary. For weighing, a small, low-priced scale should be purchased from a laboratory-supply house. For measuring fluids, glass graduates or measuring glasses may be purchased from your local druggist. Where a thermometer is necessary, a chemical thermometer should be obtained from a druggist or chemical-supply firm.

*Methods*

To understand better the products which you intend to make, it is advisable that you read the complete section covering such products. You may learn different methods that may be used and also to avoid errors which many beginners are prone to make.

*Containers for Compounding*

Where discoloration or contamination is to be avoided, as in light-colored, or food and drug products, it is best to use enameled or earthenware vessels. Aluminum is also highly desirable in such cases, but it should not be used with alkalis as these dissolve and corrode aluminum.

*Heating*

To avoid overheating, it is advisable to use a double boiler when

---

temperatures below 212°F (temperature of boiling water) will suffice. If a double boiler is not at hand, any pot may be filled with water and the vessel containing the ingredients to be heated placed in the water. The pot may then be heated by any flame without fear of overheating. The water in the pot, however, should be replenished from time to time; it must not be allowed to "go dry." To get uniform higher temperatures, oil, grease, or wax is used in the outer container in place of water. Here, of course, care must be taken to stop heating when thick fumes are given off as these are inflammable. When higher uniform temperatures are necessary, molten lead may be used as a heating medium. Of course, with chemicals which melt uniformly and are nonexplosive, direct heating over an open flame is permissible, with stirring, if necessary.

Where instructions indicate working at a certain temperature, it is important to attain the proper temperature not by guesswork, but by the use of a thermometer. Deviations from indicated temperatures will usually result in spoiled preparations.

#### *Temperature Measurement*

In the United States and in Great Britain, the Fahrenheit scale of temperature is used. The temperature of boiling water is 212° Fahrenheit (212°F); the temperature of melting ice is 32° Fahrenheit (32°F).

In scientific work, and in most foreign countries, the Centigrade scale is used, on which the temperature of boiling water is 100° Centigrade (100°C) and the temperature of melting ice is 0° Centigrade (0°C).

The temperature of liquids is measured by a glass thermometer. This is inserted as deeply as possible in the liquid and is moved about until the temperature reading remains steady. It takes a short time for the glass of the thermometer to reach the temperature of the liquid. The thermometer should not be placed against the bottom or side of the container, but near the center of the liquid in the vessel. Since the glass of the thermometer bulb is very thin, it breaks easily when striking it against any hard surface. A cold thermometer should be warmed gradually (by holding it over the surface of a hot liquid) before immersion. Similarly the hot thermometer when taken out

## INDEX

- Absorption base, Cosmetic, 129
- Acne Cream, 224
- Acne Lotion, 252
- Adhesion, Preventing of, 378
- Adhesive(s), Abrasive-Cloth, 48
  - Acid-resistant, 57
  - Aerosol, 62
  - Aluminum, 63
  - Aluminum-Cork, 50
  - Aluminum-Fiber Glass, 49
  - Aluminum-Glass, 50
  - Aluminum-Wood, 46
  - Asphalt-PVC, 59
  - Asphalt tile, 69
  - Block-Resistant, 54
  - Blood, 71
  - Bookbinding, 63
  - Building, 64
  - Butadiene-Styrene rubber, 58
  - Carbon, 70
  - Cloth (coated), 51
  - Cloth-Metal, 47
  - Cloth tape, 51
  - Construction, 64
  - Cork, 47, 50
  - Denture, 211
  - Felt-Metal, 54
  - Fiberglass-Aluminum, 49
  - Flame-resistant, 57
  - Food packaging, 49
  - Friction tape, 54
  - Glass, 63
  - Glass-Aluminum, 50
  - Glass-Foamed plastics, 60
  - Glass-Polyvinylchloride, 46
  - Glassine, 63
  - Hot-Melt, 41-45
  - Laminating, 63
  - Linoleum, 49, 69
  - Mastic, 68
  - Metal, 46
  - Metal-Felt, 54
  - Metal-Plastic foam, 60
  - Neoprene soles, 57
  - Nylon, 58, 63
  - Paper, 62
  - Paper-Tin, 63
  - Plastic foam-Metal, 60
  - Plastics, 58
  - Plastisol, 63
- Adhesive(s),
  - Polyethylene, 58
  - Polypropylene, 58
  - Polyurethane flocking, 60
  - Polyvinyl alcohol, 69
  - Polyvinyl chloride, 58
    - asphalt, 59
    - rubber, 59
  - Pressure-sensitive, 62
  - Rayon-Rubber, 50
  - Rubber, 61
    - Canvas, 56
    - PVC, 59
    - Rayon, 50
  - Rubber tape, 55
  - Sanding cloth, 51
  - Sandpaper, 48
  - Arch-support, 57
  - Shoe soles, 56
  - Surgical tape, 55
  - Synthetic rubber, 58
  - "Teflon," 62
  - Tin-Paper, 63
  - Vinyl resin, 62
- Adhesive tape, release for, 55
  - remover, 56
- Advokaat, 379
- Aerosol, adhesive, 62
  - Antibiotic, 241
  - Bandage, 270
  - Cosmetic cream, 116, 117
  - Deodorant, 275
  - Dog Shampoo, 302
  - Garden Insecticide, 297
  - Hair Groom, 172
  - Hair Spray, 186
  - Ink, 400
  - hand cleaner, 131
  - Insecticide, 295
  - Leaf Shine, 299
  - Mildewcide, 297
  - Mothicide, 297
  - Shoe Antiseptic, 248
  - Skin Protective, 270
  - Sun-tan, 149
    - after-shave lotion, 194
  - Air Freshener, 276
  - Air Sanitizer, 274
  - Alcohol, Rubbing, 247, 252
  - Algicidal Coating, 477

- 
- Aluminum, Coloring, 425  
   Anodized, 431  
   Degasser for, 433  
   Etching of, 426  
   Paint, 447  
   Solder, 433, 437  
 Amalgam, Dental, 435  
 Animal Remedies, 271, 272  
 Anodized Aluminum, Coloring for, 431  
 Anorexigenic Tablet, 264  
 Antacid, Drug, 236  
   Suspension, 243  
   Tablet, 267  
 Antibiotic, Aerosol, 241  
   Suspension, 244  
   Vehicle, 224  
 Antifriction Alloy, 434  
 Antihelminthic Wafer, 263  
 Antihistamine, Elixir, 234  
   Ointment, 255  
   Tablet, 263  
 Antiperspirant, 98  
 Antiseptic(s), 127  
   Antibiotic Solution, 230  
   Dusting Powder, 246  
   Jelly, 230  
   Spray for Feet, 248  
 Antispasmodic, Pediatric, 254  
 Anti-Static Coating, 479  
 APC Granules, 259  
 Appetite Duller, 256, 390  
 Asphalt Emulsion, 285  
 Aspirin, Compound Tablet, 262  
   Effervescent, 249  
   Elixir, 238, 249  
 Astringent lotion, 143  
 Athlete's Foot Remedy, 247  
  
 Babka, 312  
 Baby oil, 144  
 Baby powder, 145  
 Ball-Point Pen, Alloy, 432  
   Ink for, 393  
   Reviving, 393  
 Bananas, to Prevent Darkening, 380  
 Bath Oil, Pine-Needle, 204  
 Bath Powder, 203  
 Bedsore Powder, 246  
 Bee Repellent, 300  
 Beer, Improve Flavor, 381  
 Beer Foam Stabilizer, 381  
 Belt Dressing, Antislip, 70  
 Beverage Powders, 341  
 Beverages, Clarification of, 380  
 Binder, for Drug tablets, 69  
   Zein, 262  
 Bird Repellent, 301  
 Bismuth, Ductile Alloy of, 433  
  
 Bleaching Walnuts, 361  
 Blue Cheese Flavor, 378  
 Blueprints, Ink for, 392  
 Boils, Ointment for, 225  
 Brandy, Cherry, 378  
 Brass, Hot-Working of, 433  
 Bread, Cracked-Wheat, 306  
   Dairy, 304  
   Dough for, 304-308  
   Preventing Mold in, 310  
   Potato, 304  
   Protein, 308  
   Salty Rye, 307  
   for School Lunch, 305  
   Stable Ferment, 307  
   Vienna, 309  
 Brilliantine, 191  
 Bronchodilator, 238  
 Bronze, Paint, 447  
   Preserving of, 432  
 Bubble Bath, 203  
 Burns, Dressing for, 227  
 Burow's Solution Emulsion, 250  
 Butter Substitute, 376  
  
 Cake(s), 312-318  
   Cheese, 321  
   Rum, 316  
 Calamine lotion, 128, 228  
 Callus Remover, 228  
 Can Coatings, 463  
 Candy, 368  
 Carbon Adhesive, 70  
 Carbon Paper, 403  
   Coating, 408  
   Pressure-Sensitive, 403  
   Thermo-Sensitive, 405  
 Casting, Precision, 440  
   Wax Core for, 441  
 Catgut Sterilization, 250  
 Catsup, 388  
 Caulking Compounds, 65  
 Cement, *see* Adhesive  
   Rubber, 61  
 Ceramic Glaze, 75-80  
 Cheese, Blue, Flavor, 378  
   Vegetable, 377  
   Wax Coating for, 377  
 Cherry Syrup, 234  
 Chest Rub, 225  
 Chewing Gum, Antienzyme, 209  
 Chlorosis, Remedy for, 300  
 Cigarette Deterrent, 247  
 Cinnamon, Low-cost, 379  
 Citrus Flavor, 342  
 Clarification of Beverages, 380  
 Cleaner; *see* Shampoo  
   Denture, 210

- Cleaner*,  
 Disinfectant, 274  
 Waterless, 130  
*Coating(s)*; *see* Paint; Varnish  
 Algicidal, 478  
 Anti-static, 479  
 Flash-Bulb, 478  
 Fungicidal, 478  
 Optical Lenses, 23  
 Wrinkle-Finish, 480  
 for Tablets, 264-267  
 of Drug Tablets, 259-261  
 Cocoa Powder, 379  
 Coconut, Shredded Moist, 380  
 Coffee Flavor, Imitation, 341  
 Cold Waving of Hair, 179-185  
 Coloring, of Aluminum, 425  
 Citrus Fruit, 379  
 Galvanized Iron, 431  
 for Margarine, 377  
 Stainless Steel, 430  
 Compact Face Powder, 120  
 Contraceptives, 227, 252  
 Cookies, 310, 322  
 Copy Paper, Heat-Sensitive, 405  
 Cordials, Base for, 378  
 Corn Kernels, Preserving of, 361  
 Corrosion Inhibitor, 445  
 Prevention of, 443  
 Corticosteroid-Antibiotic Lotion, 251  
 Cough Syrup, 232  
 Crabs, Control of, 300  
 Crack Fillers, 65  
 Cream, Aerosol cosmetic, 109, 110  
 After-shave, 123  
 All-purpose cosmetic, 110  
 Antiflash Burn, 126  
 Antiseptic, 114, 123  
 Baby, 117  
 Barrier, 116  
 Bavarian, 370  
 Bleaching, 114  
 Chocolate, 370  
 Cleansing, 112-114  
 Coffee, 370  
 Cold, 110  
 Day, 111, 122  
 Dental; *see* Toothpaste  
 Diaper, 117  
 Foundation, 120  
 Hair, 168-175  
 Hair-waving, 185  
 Hand, 108, 121, 122  
 Insect bite, 126  
 Kosher (Coffee), 370  
 Lanolin, 115  
 Lotion, 121  
 Massage, 118  
*Cream*,  
 Medicated, 123  
 Moisture, 111  
 Night, 112  
 Non-greasy, 121  
 Pore, 118  
 Powder base, 118  
 Protective, 115  
 for Rash, 126  
 Skin-conditioning, 122  
 Sun-tan, 146  
 Vanishing, 124  
 Vegetable (Coffee), 370  
 Washable cosmetic, 111  
 Whipping, 371  
 Rouge, 118  
 Talc, 120  
 Decay of Fruits, Preventing, 380  
 Demulsifier, 288  
 Dental Amalgam, 435  
 Cement, 70  
 Cream; *see* Toothpaste  
 Desensitizer, 212  
 Filling, 212  
 Mold, 440  
 Pulp Capping, 212  
 Solution, Topical, 212  
 Dentifrice; *see* Toothpaste  
 Liquid, 208  
 Denture, Adhesive for, 211, 212  
 Cleaner, 210  
 Deodorant, Aerosol, 275  
 Air, 276  
 Personal, 107  
 for Room, 275  
 for Toilet, 276  
 Depilatory, 107  
 Dessert, Frozen, 338  
 Dessert Powder, 337, 338  
 Die-Casting Alloy, 434  
 Disinfectant, for Barbers' Instruments,  
 274  
 Cleaner, 274  
 for Dishes, 274  
 for Glassware, 274  
 Iodine, 273  
 Perfumed, 273  
 Pine Oil, 274  
 Soluble Cresylic, 273  
 Dispersion, "Fiberglas," 289  
 Graphite, 289  
 Metal Powder, 288  
 Molybdenum, 289  
 Steel, 288  
 Titanium Dioxide, 289  
 Zinc Stearate, 414  
 Dog Shampoo, 301

- Douche, Vaginal, 227  
 Doughnuts, 311  
 Dressing, Salad, 388  
 Drug Flavorings, 230  
   Granulations, 258  
   Syrup, Low-calorie, 232  
   Tablets, Coating of, 264-267  
 Dusting, to Prevent, 391  
 Dye-Carrier Emulsion, 285  
 Dyeing; *see* Coloring  
 Dyes, Hair, 186-191
- Ear Drops, 255  
 Egg Liqueur, 379  
 Eggs, Improving Powdered, 390  
 Electrode Jelly, 249  
 Electropolishing, 429  
 Embalming Fluid, 272  
 Emollient; *see* Cosmetics  
 Emulsifier, 287  
 Emulsion(s); *see* Cosmetics  
   Adhesive, 69  
   "Aroclor," 284  
   Asphalt, 285  
   -Breaker, 288  
   Bromoform, 254  
   Burow's Solution, 250  
   Citrus Oil, 342  
   Corn Oil, 388  
   Creosote, 287  
   Dillweed Oil, 389  
   Dye-Carrier, 285  
   Hydrogen Peroxide, 227  
   Lindane, 285  
   Mineral Oil, 391  
   "Oronite," 283  
   Paint, 471-473  
   Paraldehyde, 246  
   Petrolatum, 256  
   Pharmaceutical Oil, 246  
   Pickle Flavor, 389  
   Polybutene, 283  
   Polyethylene, 278-281  
   Polyvinyl alcohol, 69  
   Silicone Oil, 287  
   Sulfisoxazole, 245  
   Tar, 286  
   Tripropyl, 287  
   Vegetable Oil, 246, 285  
   "Vistanex," 281-283
- Enamel, Baking, 451-454  
   Cast-iron, 80  
   Drum, 465, 466  
   Fire-Retardant, 454  
   Multicolored, 476  
   Polyamide-Epoxy, 450  
   Toy, 450  
 Enteric Coating, 261
- Ephedrine Sulfate Jelly, 248  
 Estrone Solvent, 238  
 Etching, of Aluminum, 426  
   Chemical, 427  
   Electrolytic, 428  
   of Magnesium, 427  
   of Printing Plates, 427  
   Semi-Conductor, 427  
   of Zinc, 427  
 Eye, cosmetics for, 132  
 Eye Wash, 256
- Face Powder, Compact, 120  
 Facial mask, 127  
 Fig Bars, 322  
 Fining Agent, 381  
 Fireproof Paint, 481  
 Fish Balls, 381  
 Fish Control, 297  
 Fish Liver, preserving of, 228  
 Fish Poison, 297  
 Flavor, of Beer, 381  
   Blue cheese, 378  
   Cinnamon, 379  
   Imitation Fruit, 339, 343  
   Pickle, 389  
   Tobacco, 341  
 Flavoring of Drugs, 230  
 Flea Powder, 297  
 Flint, Lighter, 432  
 Flocking, Polyurethane foam, 60  
 Flower Preservative, 300  
 Flux, Arc-Welding, 436  
   Cast Iron Solder, 437  
   Lead-Burning, 437  
   Light Metal, 43  
   Non-Corrosive Soldering, 435  
   Tinning, 416  
   Tungsten Soldering, 437  
 Foam, Beer, 381  
   Root Beer, 380  
 Foam Bath, Vegetable, 203  
 Foam Stabilizer, 380  
 Fondant, 364  
 Food, Moldproofing of, 390  
 Foot, Antiseptic for, 248  
   Deodorant for, 107  
   Fungicide for, 247  
 Foot Bath, Sanitizing, 248  
 Foundry, Molding Sand for, 438  
 Foundry Core, 439  
   Wash for, 440  
 Foundry Investment, 439  
   Binder for, 442  
 Foundry Mold, 439  
   Binder, 439  
   Release, 440



- Foundry Mold*,  
   Spray, Wax, 438  
   Wash, 439  
 Frankfurter, Vegetable, 382  
 Frit, Enamel, 81  
 Fruit-Nut Bars, 323  
 Fruit, Preventing Decay of, 380  
 Fudge, 363, 367  
 Fumigant, Grain, 298  
 Fungicide, for Skin, 229  
   for Coating Skins, 256  
   for Wood, 292  
  
 Garden Dust, 297  
 Gastric Sedative, 256  
 Germanium Mirror, 432  
 Germicides, 230  
 Glass Flux, 74  
   Foamed, 73  
 Glaze, Ceramic, 75-80  
   Matte, 82-85  
   Textured, 86-97  
 Glycerophosphates Elixir, 237  
 Gold, Imitation, 434  
 Grain, Fumigant for, 298  
 Gravy, 384  
 Grease; *see* Lubricant  
 Grenadine, 379  
 Gum, Chewing, Antienzyme, 209  
  
 Haemorrhoid Ointment, 224  
 Hair Dressing, Gel, 177  
   —Dyes, 186-191  
   Groom, 168  
   Lotion, 176  
   Pomade, 177  
   Rinse, 178, 191  
   Spray, Aerosol, 186  
   Straightener, 178, 191  
   Tonic, 178  
   Wave Set, 186  
   Waving of, 179-185  
 Hematinic Syrup, 233  
 Herbicide, Emulsifiable, 298  
 Hog Scour, 272  
 Horseradish, Preserving, 380  
 Hunger Satisfier, 256  
  
 Ice Cream Mix, 371  
   Pie, 320  
 Icing, Bakers', 327-329, 334  
   for Cake, 316  
 Ink, Aerosol, 400  
   for Aluminum, 394  
   Ball Point Pen, 393  
   Blueprint Correcting, 392  
   Carbon Paper, 405  
   Carbon Spirit, 406  
  
*Ink*,  
   Decalcomania, 396  
   Duplicating, 399  
   Electrically Conducting, 396  
   Eradicator, 393  
   Flexible, 396  
   Flexographic, 395  
   Fluorescent Marking, 393  
   Gravure, 394  
   Heat-Transfer, 396, 398  
   Hectograph, 406, 407  
   Indelible, 393  
   Magnetic, 394  
   Marking, 393  
   Mimeograph, 402  
   Moisture-Set, 395  
   Photo-Negative, 392  
   Printing, 394  
   Smear-Resistant, 394  
   Spirit, 406  
   Stencil, 399  
   Water Printing, 395  
   Water-Soluble, 400  
   White, 392  
   X-Ray-Opaque, 392  
 Insecticide, Aerosol, 295  
   Agricultural, 297  
   Aldrin, 293  
   Animal, 295  
   Ant, 296  
   Benzenehexachloride, 293  
   for Cattle, 295  
   Chlordane, 293  
   Concentrate of, 293  
   DDT, 293  
   Dieldrin, 293  
   for Horses, 295  
   Lindane, 293  
   Malathion, 293  
   for Plants, 295  
   Rotenone, 297  
   for Roaches, 296  
   Toxaphene, 293  
 Iron, Quinine, Strychnine Elixir, 238  
  
 Jam, Low-Calorie, 351  
  
 Kaolin-Pectin Suspension, 236  
 Ketchup; *see* Catsup  
  
 Land Crabs, control of, 300  
 Lanolin, Soluble, 143  
 Latex Paint, 471-473  
 Leaf Shine, Aerosol, 299  
 Leg Make-up, 118  
 Lens coating, Optical, 73  
 Licorice Paste, 367  
 Liniment, 253

- Lip Rouge, Liquid, 154  
 Lips, Chapped, Stick for, 154  
 Lipstick, 151-154  
 Liqueur, Egg, 379  
 Lithographic Plate Etching, 427  
 Liver, Preservation of, 228  
 Lotion(s), Bleaching, 179  
   Calamine, 128, 228  
   Cosmetic, 134-143  
   Hair, 175  
   Neutral Emollient, 251  
   Vehicle, 133  
 Lubricant, Anesthetic, 253  
   Antiseptic, 229  
   Cable (Steel), 415  
   Dry, 414  
   Engine, 415  
   High-Temperature, 415  
   Metal-Drawing, 413  
   Molybdenum Disulfide, 415  
   Motor, 415  
   Plastic, 414  
   Rubber Air-Bag, 414  
   Solid, 415  
   Threading, 415  
   for Watches, 413  
   for Weaving-Looms, 414  
   for Wool-Weaving, 414  
   Zinc Stearate, 414  
 Lubricating Grease, Clear, 413  
 Magnet, Moldable, 434  
 Make-up, Cosmetic, 118, 119  
 Marmalade, Orange, 352  
 Marshmallow Cream, 331  
 Marzipan, 368  
 Mascara, 132  
 Massage Stick, 225  
 Mastics; *see* Adhesives  
 Meat Tenderizer, 383  
 Meringue, 330  
 Metal, Etching of, 427  
   Polishing of, 429  
   Activation of Surface, 418  
 Mildewcide, Aerosol, 297  
 Milk, Beauty, 143  
   Chocolate, 376  
   Reconstituted, 373-375  
   Soy, 375  
 Mirror, Germanium, 432  
 Mold-Prevention, 326, 360, 390  
 Moth Attractant, 298  
 Mothicide, Aerosol, 297  
 Mouthwash, 209  
 Mustard, Strengthening of, 379  
   Sauce, 389  
 Nail Polish Remover, 155  
 Nasal Spray, 233  
 Neutron-Absorbing Alloy, 434  
 Nosebleed, Remedy for, 227  
 Nut Wafers, 324  
 Nuts, Coating for, 362  
 Oil; *see* Lubricant  
   Cutting, 414  
   Soluble, 156, 293, 414  
 Ointment Base, 212-216  
   Powdered, 128  
   Washable, 123  
 Ointment, Medicinal, 215  
 Ophthalmic Vehicle, 255  
 Organosol Adhesive, 63  
 Paint; *see* Primer  
   Acid-Resistant, 471  
   Alkaline Surface, 471  
   Aluminum, 447  
   Anti-Corrosive, 461  
   Artists', 480  
   Auto Undercoating, 466  
   Barn, 473  
   Bronze, 448  
   Chemical-Resistant, 468  
   Concrete, 471, 474  
   Deck, 473  
   Fireproof, 481  
   Flat, 473  
   Heat-Indicating, 481  
   Latex, 471-473  
   Marine, 461, 471  
   Multicolor, 476  
   Plastic, 479  
   Polka-Dot, 476  
   Porch, 474  
   Reflecting, 479  
   Roof, 473  
   Ship, 461  
   Speckled, 476  
   Steel, 461  
   Swimming-Pool, 471  
   Temperature-Indicating, 481  
   Traffic, 478  
   Water, 480  
   (*see* Latex Paint)  
 Pan Grease, Bakers', 336  
 Paraldehyde Emulsion, 246  
 Patching Compound, 64  
 Peanuts, Salting of, 363  
   Sugared, 362  
 Penicillin-Procaïne Suspension, 242  
 Pen-Nib Alloy, 432  
 Pentobarbital Elixir, 236  
 Perfume, 157-167  
 Perfume Oil, Solubilizer for, 156  
 Perspirants, Anti-, 98-107  
 Petroleum Emulsion Breaker, 288

- Pharmaceutical Oil Emulsion, 246  
 Ointments, 215-225  
 Phenobarbital, Elixir of, 237  
 Solution of, 257  
 Phosphating Metal, 445  
 Pickle Liquor, 389  
 Pickling Inhibitor, 442  
 Salt, for Ham, 389  
 Solution for Bacon, 390  
 Pie Crust, 318  
 Pie Filling, 319  
 Pills; *see* Tablets  
 Pipe Line, Rustproofing, 444  
 Plants, Antifreeze for, 300  
 Plastisol Adhesive, 51, 63  
 Wrinkle-Finish, 480  
 Plating, Alkaline, 424  
 Bismuth, 425  
 Black Nickel, 420  
 Bright Dip, 420  
 Brush, 420  
 Cadmium-Zinc, 421  
 Chromium, 425  
 Copper, 420, 422  
 Gold, 420  
 Iron, 421, 424  
 Nickel, 419, 422  
 Nickel-Silver, 424  
 Non-Electric, 420  
 Non-Poisonous, 420  
 Platinum, 424  
 Silver, 423, 424  
 of Steel Hardware, 422  
 Tin, 423  
 Tin-Nickel, 424  
 Uncommon Metals, 417  
 Zinc, 418, 420  
 Zinc-Cadmium, 421  
 Poison Ivy Protectant, 227  
 Polish (Nail) Remover, 155  
 Pop-corn, preserving of, 361  
 Potato Sprouting, Preventing, 300  
 Poultry Worm Remedy, 271  
 Primer, Chrome Wash, 458  
 Corrosion Resistant, 469  
 Epoxy Metal, 460  
 Housepaint, 460  
 Marine, 458  
 Marine Architectural, 459  
 Metal-Wash, 458  
 Red Lead, 458  
 Zinc Chromate, 457  
 -Sealer, 473  
 Zinc, 459  
 Procaine-Penicillin Suspension, 242  
 Propellant; *see* Aerosol  
 Cosmetic, 174  
 Protein Cracker, 326  
*Protein Cracker*,  
 Dumplings, Non-Meat, 383  
 Snack, 325  
 Pudding, Non-Starch, 338  
 Powder, 338  
 Putty, Non-freezing, 68  
 Lanolin, 68  
 Plastic, 67  
 Sash, 69  
 Pyrophoric Alloy, 432  
 Radioactive Decontaminant, 276  
 Rancidity in Shortening, to retard, 377  
 Rat-proofing Packaging, 301  
 Repellent, Bee, 301  
 Bird, 301  
 Rat, 301  
 Resin, Silicone-Alkyd, 455  
 Silicone-Epoxy, 456  
 Silicone-Phenolic, 455  
 Synthetic, 455  
 Rice Coating, 362  
 Rolls, Brown 'N Serve, 303  
 Glaze for, 303  
 Root Beer Foam, 380  
 Rotproofing Wood, 287  
 Rouge, Cream, 118  
 Liquid, 154  
 Rubbing Alcohol, 247, 252  
 Rug backing, Non-skid, 70  
 Rum Syrup, 317  
 Rust Preventive, 443  
 Rustproofing Metal, 443-446  
 Sachet, Cream, 115, 157  
 Powder, 246  
 Salad Dressing, 388  
 Salt, Sodium-Free, Dietary, 255  
 Substitute, Dietary, 247  
 Sandpaper adhesive, 48  
 Sanitizer, Air, 274  
 Swimming-Pool, 276  
 Sauce, Barbecue, 386  
 Beefsteak, 385  
 Mustard, 389  
 Piquant, 385  
 Sea-Food Cocktail, 386  
 Tomato, 387  
 Worcestershire, 387  
 Scalp Protective, 247  
 Seal(s); *see* Adhesives  
 Glass electrode, 73  
 Porous Casting, 442  
 Sealant, Construction, 64  
 Rubber tape, 55  
 Sealer, Automotive, 47  
 Seasoning, Soup, 384

- Shampoo, Acid Cream, 196  
 Anti-Seborrhea, 247  
 Coconut, 197  
 Cream, 196, 199, 202  
 Dandruff, 202  
 Dog, 301  
 Dry-Hair, 201  
 Egg, 197  
 Liquid, 201  
 Real Soap, 197  
 Shave (After-) Lotion, 194  
 Shaving Cream, Brushless, 194  
 Shortening, to Retard Rancidity in, 377  
 Silicone Emulsion, 287  
 Siliconized Linseed Oil, 454  
 Silver Firestain, Preventing, 434  
 Skin Darkener, 150  
 Paste, 256  
 Protective, Aerosol, 270  
 Smoking Deterrent, 247  
 Sodium-Free Dietary Salt, 255  
 Solder, Aluminum, 433, 437  
 Aluminum-Stainless Steel, 436  
 Cast Iron, 435  
 Chromium Plate, 437  
 Flux-Containing Wire, 435  
 Fluxless Aluminum, 436  
 Nickel Plating, 437  
 Non-Tarnishing, 438  
 Stainless Steel, 435  
 Titanium, 436  
 Tungsten Carbide, 435  
 Tungsten Carbide-Stainless Steel, 437  
 Soup, Beef Base, 384  
 Seasoning for, 384  
 Spray, Insect; *see* Insecticide  
 Steel, Blackening of, 430  
 Dispersion, 288  
 Stencil, Duplicating, 400  
 Ink for, 399  
 Sterilizing Solution, Catgut, 250  
 Sulfoxazole Emulsion, 245  
 Sunscreen, Cosmetic, 146  
 Sun-Tan Cream, 146  
 Suppository, Base for, 226  
 Vaginal, 226  
 Surgical Tape, Adhesive, 55  
 Suspension, Powder; *see* Dispersion  
 Swimming Pool Sanitizer, 276  
 Syrup, Fountain, 345-351
- Tablet(s), Drug, binder for, 69  
 Coating of, 259-261, 264-267  
 Granulation Binder, 262  
 Multi-Layer, 266  
 Sustained Release, 26  
 Talcum Powder, 256  
 Tanning lotion, Skin, 150
- Tape, Electrical friction, 54  
 Tar Emulsion, 286  
 Tea-Sticks, Green, 379  
 Teething Cookie, 325  
 Termite-Proofing, 291  
 Thixotropic Coatings, 64  
 Throat, Lozenge for, 233  
 Spray for, 233  
 Tinning, Cast Iron, 416  
 Copper Wire, 433  
 Toothache Drops, 211  
 Tooth Cleaner, 210  
 Lacquer, 210  
 Paste, 204  
 Ammoniated, 207  
 Chlorophyll, 206  
 Enzyme-Stimulating, 206  
 Tyrothricin, 208  
 Powder, 208  
 Whitener, 210  
 Topping, Bakers', 331, 334  
 for Ice-Cream, 352-360  
 Tree Wound, Dressing for, 300  
 Typewriter Ribbons, Regenerator, 412  
 Ulcer (Peptic) Remedy, 257
- Vaginal Douche, 227  
 Varnish, Aluminum, 447  
 Can-Coating, 463  
 Crown Cap, 448  
 Floor, 475  
 Heat-Resistant, 467  
 Litho, 464  
 Satin, 475  
 Short-Oil, 450  
 Spar, 449  
 Vegetables, Preventing Decay of, 380  
 Vesicant, Decontaminant, 128  
 Vitamin A, Aerosol Foam, 240  
 C, Syrup, 234  
 Syrup, Multiple, 235  
 Tablet, Multi-, 268
- Watch Lubricant, 413  
 Wax Casting, Lost, 441  
 Weed-Killer; *see* Herbicide  
 Whiskey, Clarification of, 380  
 Wine Fining Agent, 381  
 Whooping Cough Emulsion, 254  
 Wood Preservative, 287, 291  
 Worm Remedy, 263  
 for Poultry, 271
- X-Ray Print Ink, 392  
 Shield for Skin, 248
- Yeast, Preserving, 390
- Zinc Dross, Recovery, 433  
 Insulating Molten, 431



