Relief In Tamper-Resistant Packages

3 Examples

1. Shrink Seal

2. Bottle Seal

3. Breakable Cap
Aspirin Vs. Acetaminophen
For some ailments these two popular nonprescription drug products produce similar results, but not always. Smart consumers should learn what each is good for and not good for.

Slashing Away at Red Tape in the Drug Approval Process
Making sure a drug is safe and effective before it's permitted on the market is a time-consuming, painstaking process. Now new procedures have been proposed to speed up the process while maintaining the sanctity of the system.

Relief in Tamper-Resistant Packages
A criminally poisoned nonprescription drug product resulted in the deaths of seven persons in the Chicago area recently. As a result, new packaging requirements have been ordered for certain nonprescription drug products and cosmetics. The new packages will be harder to tamper with and will make it easier for a purchaser to know that a product has been violated.

Why People Don't Take Medicines Properly
A third to a half of medicines are not taken as the doctor ordered. The reasons are many but they usually boil down to a lack of communication, and either or both the doctor and patient may be at fault.

Potassium: Keeping a Delicate Balance
Sodium and potassium are tied up so closely in body metabolism that people trying to reduce sodium intake should not use salt substitutes, especially those containing potassium chloride, except under a doctor's guidance.

Today's Margarine Is Mostly Vegetable Squeezings
Margarine gets more respect than it used to. Some reasons are its price and its relative nutritive value. Then there's the appeal of the low-fat versions.

Surveys show that one-third to one-half of patients fail to take their medicines correctly. Reasons for this "noncompliant" behavior and what can be done to improve the track record are discussed in the article Why People Don't Take Medicines Properly, beginning on page 18.
Hey, Look! A Price Reduction

We are pleased to announce a price reduction for FDA Consumer. The new price, which is already in effect, will be $19 a year domestic and $23.75 foreign. The Government Printing Office, which sets the rates, agreed to the lower price after the editors had established some cosmetic changes in the magazine. These changes include the use of slightly lighter weight paper and some reduction in art. However, we don't plan any change in editorial standards and we will continue to produce a magazine that will look like you'd want to pick it up.

To some, $19 for 10 issues of a magazine may still seem too high; but remember, we don't have any advertisers to help support us—nor do we have any advertisements to get in the way of your reading.

The Editors

Help for Wheezers

Asthma sufferers now have another drug available without prescription to relieve wheezing and shortness of breath. FDA has permitted the drug metaproterenol, formerly available only by prescription, to be marketed as a nonprescription aerosol. FDA made the switch in a tentative final monograph, or standard, published in the Oct. 26, 1982, Federal Register.

The monograph covers bronchodilator drugs and is based on the recommendations of the Advisory Review Panel on OTC Cold, Cough, Allergy, Bronchodilator, and Antiasthmatic Drug Products. The panel's report is part of FDA's ongoing program to evaluate the safety and effectiveness of all over-the-counter (OTC) drugs.

Although included in the monograph, metaproterenol was not evaluated by the advisory panel. This is the first time in the OTC drug review that FDA has, on its own, initiated the switch of a prescription drug to nonprescription status.

In the proposed standard, FDA agreed with the panel that the following ingredients are safe and effective: ephedrine, ephedrine hydrochloride, epinephrine, epinephrine bitartrate, and epinephrine hydrochloride (racemic). At the same time, the agency said theophylline as a single ingredient and methoxyphenamine hydrochloride should not be allowed in OTC bronchodilator drug products. (FDA's position regarding theophylline in combination with other OTC ingredients will be published at a later date.)

For labeling of OTC bronchodilator drug products, FDA proposed the indications (use) statement "For temporary relief of shortness of breath, tightness of chest, and wheezing due to bronchial asthma." The warnings section should advise consumers not to take the product unless a diagnosis of asthma has been made by a doctor.

Labeling for ephedrine-containing drug products should include the warning "Some users of this product may experience nervousness, tremor, sleeplessness, nausea and loss of appetite. If these symptoms persist or become worse, consult your doctor."

Ephedrine and epinephrine-containing drug products should also be labeled with a drug interaction precaution that reads "Do not take this product if you are presently taking a prescription drug for high blood pressure or depression, without first consulting your doctor."

The original report of the advisory panel included monographs for cold and cough preparations, allergy drug products, bronchodilators and antiasthmatic...
Drug for Slipped Discs

Patients suffering from herniated, or slipped, back discs now have an alternative to surgery. Chymopapain, an injectable drug, has been approved by FDA. It is for use when more conservative measures, such as bed rest and traction, fail. The product will be marketed as Chymodiactin by Smith Laboratories Inc. of Northbrook, Ill.

A herniated disc is a bulging of the soft inner portion of the disc which produces pressure on surrounding nerves. It is a common cause of severe back, hip and leg pain.

Derived from the extract of the papaya plant, chymopapain causes the dissolution of the herniated material, thus relieving the pain caused by pressure on the nerves. The new drug is intended to be injected into the disc in a hospital by physicians experienced in the diagnosis and treatment of lumbar disc disorders and specially trained in this particular injection procedure.

The most serious risk associated with the use of chymopapain is anaphylaxis, a severe allergic reaction. In the clinical trials involving over 1,400 patients, this reaction occurred in approximately 1 percent of those injected with the drug. Two patients died. This mortality of 0.14 percent is about the same as that for lumbar disc surgery.

The drug has been under study since 1963 under an investigational new drug application held by Travenol Laboratories Inc. of Chicago, but in late 1974 a study comparing the effectiveness of chymopapain versus a presumably inactive substance failed to show a significant difference between the two. Smith Laboratories Inc. began research on chymopapain in 1980. Controlled human trials at seven major hospital and university centers throughout the United States established that the drug is effective for treating herniated lower back discs.

Sugar Tended Safe

Sugar may contribute to cavities, but otherwise it is safe at current consumption levels, says FDA. The agency proposed to affirm the safety of sucrose (table sugar), corn sugar, corn syrup and invert sugar based on the conclusions of a select committee of the Federation of American Societies for Experimental Biology (FASEB), an independent group of scientists.

The committee concluded that, other than their contribution to cavities, sugars are safe at present consumption levels, but said it did not have sufficient data to determine whether a significant increase in consumption would be safe. As a result, FDA said it will monitor average total-diet sugar consumption for changes.

The FASEB committee said all sugars contribute to cavities but sucrose proved most guilty in animal and human experiments. The studies included a five-year experiment among 436 inmates of a Swedish institution whose diets were modified to contain sugars and starches as part of a meal or as between-meal snacks. The results showed cavities increased with increased sucrose consumption and that sucrose eaten as part of the meal was less apt to cause cavities than that consumed as a between-meal snack.

Table sugar, refined from sugar cane or beets, is the most common sugar. Corn sugar, or dextrose, is used in some soft drinks, confections and baked goods. Corn syrup, or glucose syrup, is used in baking mixes and breakfast cereals, pastries and peanut butter. Invert sugar, a mixture of glucose and fructose, is sold only in liquid form and is used in baked goods and confections.

The proposal on sugars was published in the Nov. 30 Federal Register. FDA requested data from man-
ufacturers on levels of lead and cadmium in raw sugars within 120 days. These heavy metals may arise from soil, fertilizer, farm machinery and manufacturing processes, and FDA wants to see if limits on their levels are warranted.

(For a more complete report on sugars, see separate articles in the February, March and April 1980 issues of FDA Consumer.)

Insulin from DNA

Biosynthetic human insulin, the first health-care product manufactured by means of recombinant DNA technology, was approved by FDA Oct. 29.

The new insulin, to be marketed by Eli Lilly and Co. under the name Humulin, is identical to that produced by the human body, but is synthesized in bacteria whose genetic material—DNA (deoxyribonucleic acid)—has been altered by the addition of the human gene for insulin production. The bacteria are thus programmed to produce large amounts of this human hormone.

Although the chemical composition of the new biosynthetic insulin differs slightly from that purified from the pancreases of swine and cattle, clinical studies have not found it to have any therapeutic advantage over the most highly purified insulin of swine origin in the treatment of diabetes.

Scientists at Lilly first made human insulin through recombinant DNA technology in 1979. Following extensive animal studies and clinical tests involving approximately 400 persons, the company submitted its new drug application for biosynthetic human insulin to FDA in May 1982. The product was recently approved in Great Britain. (For a report on the potential of recombinant DNA, see "rDNA: Tinkering with Nature To Make Drugs" in the May 1981 FDA Consumer.)

No Games on Old Sets

Old (pre-1970) TV sets should not be used with home computer or video games, FDA’s National Center for Devices and Radiological Health advises. It is possible that the older sets, viewed at the short distances commonly used with video games and computers, could cause X-ray exposures higher than the recommended maximum doses for the general public.

The National Council on Radiation Protection and Measurements, a nongovernment organization, has set a recommended dose limit for the general public of 500 millirem per year for organs especially sensitive to radiation, such as the thyroid. A letter to the editor in the Sept. 30, 1982, New England Journal of Medicine stated that radiation exposure for people using old TV sets with video games or computers for about two hours every day could be as high as 890 millirem per year to the eyes and 779 millirem to the thyroid. The letter was concerned with sets manufactured before 1970, when FDA’s performance standard for TV receivers went into effect.

Funds for Orphan Drugs

Organizations, institutions, even state and local governments who need financial support to develop an orphan drug may be able to get help from FDA. The agency’s Office of Orphan Products Development has announced that funds are available to support research for orphan products—those that may be neglected because they are for rare diseases or because they lack commercial interest.

In considering grant applicants, FDA will look for candidates that already show some clinical evidence that the product is likely to be useful. Products with persuasive pharmacologic evidence even without clinical trials also will be considered. Because the funds will be limited, the agency will seek studies that involve a few dozen patients, are well controlled, and are directed at providing evidence of the product’s safety and effectiveness in treating the disease.

Applications will be reviewed by FDA experts for patient safety, the qualifications of the investigator, the study rationale and design, and its chances of success. (The lag in orphan drug development was discussed in "Rx for Orphan Drugs" in the September 1980 FDA Consumer.)

More Reye-Aspirin Studies

New government-supported studies are necessary to help resolve a scientific dispute over the reported
link between Reye syndrome and salicylate-containing drugs, HHS Secretary Richard S. Schweiker has announced. The secretary also announced that public protection requires the continuation of the educational campaign to alert parents and health professionals of the need for caution. The secretary has directed the Public Health Service to make recommendations for the new research.

Scientific evidence examined earlier this year by FDA and the national Centers for Disease Control suggested an association between the use of salicylate drugs, such as aspirin, to treat children with the flu or chicken pox and the development of Reye syndrome, a rare but life-threatening disease that most often occurs in children under 16. As a result, last June the secretary called for product warning labels and an educational campaign advising the exercise of caution in the use of these drugs in children with chicken pox or flu-like symptoms. (See Updates, FDA Consumer, December 1982–January 1983.)

However, the studies suggesting the salicylate-Reye syndrome association have continued to provoke controversy. While a significant body of qualified experts believes the evidence sufficiently establishes an association and the public should be so advised, others believe the studies are flawed in design and execution and do not justify requiring warning labels at this time. The American Academy of Pediatrics has recently advised the secretary that while it continues to believe there should be caution in the use of aspirin in treating flu and chicken pox in children, it does not believe that a warning label on salicylate products should be required until more conclusive evidence of the association of aspirin administration and Reye syndrome is shown by further investigation. It was after being advised of the academy’s recommendation that Secretary Schweiker decided more studies are needed on Reye syndrome.

The secretary also announced that HHS will issue an advance notice of proposed rulemaking inviting comments on the significance of currently available information on Reye syndrome and on whether a proposed warning label on salicylate-containing drugs should be required.

(Reye syndrome and the aspirin association are discussed in “Reye Syndrome Spells Caution to Parents” in the October 1982 FDA Consumer.)

Consumer Forum

Discreet Dad Discovered

I was delighted to read “When Carp Was Dressed Up Like Tuna” in the May 1982 Consumer. The article recounts the tale of a midwestern grocery company which deliberately mislabeled canned fish.

My father, an FDA investigator, was the “detective” who solved the case. Dad was so discreet about his work that it was not until I read the story that I was aware of his role, or that the case has become an FDA classic account of economic fraud. It’s a fascinating story.

Mary Lou Hennessy
Washington, D.C.

Liked Body Wrap Article

Over the past year I have found FDA Consumer to be an excellent journal that is in constant use here. The November 1982 issue has an excellent article on body wraps ... that provides answers to questions we receive daily. The information is reliable and timely. Please keep up the good work.

Pat Roginski, R.D.
Assistant Director
Greater Cincinnati Nutrition Council
Twelve-year-old Jonathan took aspirin to ease the pain when he broke his leg last year, but now his mother has been advised to consult a physician before giving him aspirin if he should get chicken pox or the flu.

Jonathan’s father has an ulcer, so he can’t take aspirin at all but he can use acetaminophen when he has a fever or a headache. (Acetaminophen is best known by such brand names as Tylenol, Datril and Anacin-3.)

Jonathan’s grandmother has arthritis. She, too, can take acetaminophen for a simple headache, but this drug product won’t do a thing for her swollen joints. For this condition she takes aspirin under the careful supervision of her doctor.

If this is confusing, it is no wonder. In many ways aspirin and acetaminophen are similar, but there are some important differences consumers should know about.

**ASPIRIN**

Aspirin belongs to a class of drugs called salicylates. The active ingredient, salicylic acid, is found in the bark and leaves of willow trees, poplars, spirea and other plants. Hippocrates is said to have used willow to relieve pain. Aspirin was synthesized as acetylsalicylic acid in 1853 but remained a chemical curiosity until near the end of the century. In the early years of the 20th century aspirin came into widespread use. Today it is perhaps the most popular nonprescription drug on the market.

Aspirin now is available in tablets, capsules, chewing gum and suppositories. There are timed-release as well as enteric-coated aspirin products. The addition of antacids produces a buffered product that is claimed to be less irritating to the stomach. However, scientific evidence does not provide unqualified support for this claim.

There are some aspirin products called “extra strength” or “maximum strength.” This simply means that they contain more of the active ingredient than regular aspirin products or they contain a combination of aspirin with another analgesic. For instance, a regular-strength tablet will contain 325 milligrams of aspirin, while an extra-strength product may have 400 milligrams. Aspirin may be combined with acetaminophen, as it is in analgesic products such as Excedrin, Vanquish and Goody’s Headache Powder. It also may be an added ingredient in another type of product, such as a cough-cold remedy.

Aspirin is used to relieve minor aches and pains, headaches or toothaches. It also helps bring down fevers by interfering with the body’s thermostat in the brain. Because it reduces inflammation, aspirin is often the drug of choice in many kinds of arthritis. But that’s not all. In recent years scientists have been finding new uses for aspirin. For instance, aspirin is now used to reduce the risk of recurrent transient ischemic attacks (TIAs) in men. Aspirin—both plain and buffered varieties—seems to work because it disrupts the blood’s ability to clot. Unfortunately, it has not yet been shown that aspirin prevents TIAs in women.

While it is generally considered safe for most people, aspirin does have side effects, the most common of which are nausea or vomiting and stomach irritation. Less common are bloody or black stools, shortness of breath, skin rash, and unusual tiredness or weakness. Possible signs of an overdose of aspirin include bloody urine, diarrhea, dizziness or lightheadedness, severe drowsiness, hallucinations, ringing or buzzing in the ears, and severe or continuing stomach discomfort.

Some people are allergic to aspirin and suffer such reactions as itching, hives, runny nose, swelling of the throat, chest pains and fainting.

The advent of child-proof caps on drugs has greatly reduced the number of accidental aspirin poisonings in young children, but the little ones still can get into medicines. Immediate emergency help should be sought if a child has taken an overdose of aspirin. The signs of overdose in children include changes in behavior, severe drowsiness or tiredness, and unusually fast or deep breathing.

Because aspirin is an acid, it can irritate the stomach. This is why some people get an upset stomach when they take plain aspirin. Taking the drug with water or using a buffered product may help prevent this distress. At its worst, the acid nature of aspirin can cause ulcers in people who are prone to this condition. If the ulcer is bleeding, aspirin can make matters worse. Clearly, plain aspirin is something ulcer-prone people should avoid.

Others who should not take aspirin, unless directed by their doctor, are those who have asthma, gout, bleeding problems, or kidney or liver disease. People who are taking prescription drugs for anticoagulation (blood thinning), diabetes, gout or arthritis also should avoid aspirin, unless their doctor has advised them otherwise.

Here are some other things consumers should know about taking aspirin:
Aspirin appears to be associated with the development of a rare but sometimes fatal disease called Reye syndrome in children under the age of 16 who take the drug when they have chicken pox or flu. The Public Health Service has advised parents to consult a physician before giving aspirin to children under 16 in these circumstances.

Pregnant women should be cautious about taking any drug unless it is absolutely necessary, but this is particularly true of aspirin. Taken during the last three months of pregnancy, aspirin may increase the length of the pregnancy, prolong labor, or cause other problems during delivery. In addition, aspirin taken during the last two weeks may cause the baby to have bleeding problems.

Patients who are going to have any kind of surgery should avoid aspirin before the event, unless directed otherwise by their doctor. Again, too much aspirin at this time can cause prolonged bleeding.

People taking high doses of aspirin, or who are taking it for a long time, should stay away from alcoholic beverages. The combination may increase the possibility of stomach irritation.

Although aspirin will reduce inflammation associated with arthritis, it can't cure this crippling disease. People with arthritis should not attempt self-treatment with aspirin. The correct dosage for each individual must be determined by his or her doctor.

Diabetics should be aware that false results may occur in a urine sugar test if they are taking aspirin on a regular basis.

ACETAMINOPHEN

Acetaminophen belongs to a class of drugs called paracetamol. Like aspirin, acetaminophen dates back to the mid-1800s. Its parent compound, acetylsalicylic acid, was synthesized in 1852, but it was not until 1886 that its fever-reducing properties were discovered accidentally by two Austrian physicians. Unfortunately, acetanilid proved too toxic and this led to a search for safer products of the same type. Phenacetin was the first to emerge, in 1887. Six years later, in 1893, acetaminophen made its debut.

Oddly enough, it was not until the mid-1900s that the new compound became popular, after two American scientists discovered that acetaminophen is the major active metabolite of both acetanilid and phenacetin. Acetaminophen has been available in the United States as an over-the-counter drug since 1955.

Acetaminophen is available in tablets, capsules, liquid form and rectal suppositories. Like aspirin, acetaminophen can be combined with antacids. It is available in “extra-strength” versions and often is combined with other ingredients in different drug products.

Acetaminophen is just as effective as aspirin in relieving pain and reducing fever, but it has no effect at all on inflammation. For this reason, it is not used in the treatment of arthritis, rheumatism or other conditions such as sprains where inflammation might occur. Likewise, it has no effect on the blood and therefore is not used in preventing the recurrence of TIA's.

One of the primary advantages of acetaminophen is that it has fewer side effects than aspirin. It doesn’t irritate the stomach and rarely causes allergic reactions; thus, it can be used by people who have ulcers or aspirin allergies.

At normal doses, acetaminophen sometimes may cause bloody or cloudy urine, difficult or painful urination, skin rash, unusual bleeding or bruising, or yellowing of the eyes or skin. Such reactions are rare.

The greatest danger from acetaminophen comes from its effect on the liver. A single massive dose, say of 15 to 25 grams (30 to 50 extra-strength tablets), can cause severe liver damage and death. Chronic excessive use for several weeks also can cause liver problems. These problems can be made worse if large amounts of alcohol are consumed at the same time. Signs of acetaminophen overdose include diarrhea, loss of appetite, nausea or vomiting, stomach cramps or pain, and an unusual increase in sweating. Unfortunately, these symptoms may not appear for two to three days after the overdose has taken place, or may be delayed for as long as one week, making diagnosis difficult. It is important that treatment be started within 10 hours if liver and kidney damage are to be prevented or minimized.

Because of its possible adverse effect on the liver, acetaminophen should not be taken by people who have liver disease or a virus infection of the liver. People who have severe kidney disease should not take acetaminophen.

Regardless of the type of medication being taken—aspirin or acetaminophen or any other medicine—consumers should always read the label carefully for instructions on the recommended uses, dosage (how and when to take the drug), and warnings for the product.

Annabel Hecht is a member of FDA’s publications staff.
# Popular Pain Relievers at a Glance

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Aspirin</th>
<th>Acetaminophen</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Some Familiar Brand Names</strong></td>
<td>Bayer, St. Joseph, Anacin, A.S.A. Compound, Ascriptin, Empirin</td>
<td>Tylenol, Datril, Bromo-Seltzer, Allerest, Tempra, Liquiprim, Anacin-3</td>
</tr>
<tr>
<td><strong>Dosage Forms</strong></td>
<td>Tablets, capsules, chewing gum, suppositories</td>
<td>Tablets, capsules, liquid, suppositories</td>
</tr>
<tr>
<td><strong>How Used</strong></td>
<td>To relieve minor aches, pains, headaches; lower fever; reduce inflammation; prevent blood clots that may lead to TIAs</td>
<td>To relieve minor aches, pains, headaches; lower fever</td>
</tr>
<tr>
<td><strong>Minor Side Effects</strong></td>
<td>Dizziness, diarrhea, upset stomach</td>
<td>Upset stomach, nausea, vomiting</td>
</tr>
<tr>
<td><strong>Serious Side Effects</strong></td>
<td>Bleeding, stomach irritation; liver, kidney damage; slowed blood clotting time; allergic reactions</td>
<td>Liver damage, hepatitis, reduced white blood cell and platelet counts</td>
</tr>
<tr>
<td><strong>Signs of Overdose</strong></td>
<td>Bloody urine, diarrhea, dizziness, severe drowsiness, ringing or buzzing in the ears</td>
<td>Diarrhea, loss of appetite, nausea or vomiting, stomach cramps and pain, increased sweating</td>
</tr>
<tr>
<td><strong>Special Precautions</strong></td>
<td>Do not take if you have asthma, a bleeding disorder, an ulcer, gout, liver or kidney disease, or if you are allergic to aspirin</td>
<td>Do not take if you have liver or kidney disease or a virus infection of the liver</td>
</tr>
<tr>
<td></td>
<td>Do not take during last 3 months of pregnancy unless directed by a doctor</td>
<td>Do not take if you are allergic to acetaminophen</td>
</tr>
<tr>
<td></td>
<td>Do not take if you are taking prescription drugs for blood thinning, diabetes, gout or arthritis</td>
<td></td>
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<tr>
<td></td>
<td>Do not give to children under 16 during or following chicken pox or flu</td>
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</table>
Slashing Away At Red Tape
In The Drug Approval Process
A hundred years ago a physician who noticed something remarkable about a chemical or a plant extract could try it on himself, members of his family and a few friends, publish the results in a medical journal, and that was it. A new drug was born.

Getting a drug on the market today is a far different process, one that takes many years and a great deal of money. In fact, as much as 7 to 10 years may elapse from the time a new chemical entity is tested in a research center until its brand name appears on a doctor's prescription form. The bulk of that time is devoted to testing the new product—first in animals, then in humans—to establish its safety and effectiveness. About two years of the total time is spent gaining FDA's approval, a must before the drug can go on the market. In response to charges that FDA is proposing a far different process, one that takes too long, the agency has proposed to revamp its regulations in order to speed up approval time and make the process easier and less costly for both manufacturers and FDA.

Three years in the drafting, the new procedures were proposed in the Oct. 19, 1982, Federal Register. They represent the most significant reform of the drug approval process since the 1962 amendments to the Food, Drug, and Cosmetic Act, which required that drugs be effective as well as safe. The changes FDA is proposing address a variety of aspects of drug approval, from the format of the new drug application to the time it takes for FDA's review. Here are the highlights of the proposal:

The format of the application would be streamlined to make review by FDA's National Center for Drugs and Biologics easier and faster. Drug sponsors would be asked to provide two copies of their application instead of the current three. One copy, containing all the required information, would be for the archives. The other would be a review copy containing an overall summary plus separate technical sections covering clinical data, pharmacology, chemistry, statistics and biopharmaceutics, plus microbiology if the drug is an antibiotic. Having separate technical sections would not only permit concurrent review by FDA but would also free the reviewers from wading through volumes of material that is not in their area.

FDA also proposes to minimize the amount of supporting information required. Instead of individual reports of patients who participated in clinical studies, drug sponsors would only need to supply tabulations of essential patient information. However, case reports will be necessary for patients who dropped out or died during the study. This will eliminate 70 percent of the paper submitted, which now totals over 100,000 pages.

Fewer supplements to approved applications would be required under the proposed regulations. For instance, information about changes in personnel, certain manufacturing procedures and distribution will not need to be reported. Some information, such as a change in coloring ingredients, can be noted in annual reports on the drugs. Supplemental information on changes that add or strengthen a contraindication, warning or precaution would have to be reported but would not require pre-clearance by FDA. Pre-clearance still would be required for changes that could affect the agency's conclusions about a drug's safety and effectiveness.

Certain record-keeping and reporting requirements also would be reduced. For one thing, the three-month and six-month reporting requirements used to monitor a drug in the first two years will be eliminated. In addition, applicants will be required to keep records of adverse drug experiences for only 10 years, instead of indefinitely, as is now the case.

Another important provision in the proposed drug regulations is a clarification of FDA's policy regarding use of data developed in foreign countries and contained in new drug applications. Actually, the agency has relied increasingly on foreign data, and such data have sometimes been pivotal in approving new drug applications. The policy, as stated in the Oct. 19 proposal, is that the agency will consider all clinical studies on their merits regardless of the country of origin, providing such studies meet the agency's standards. Approval of applications backed up solely by foreign clinical data will be determined on a case-by-case basis. Factors that must be considered include medical, genetic and cultural differences between countries, FDA's familiarity with foreign clinical investigators, and the agency's inability to conduct on-site inspections.

Two other proposed changes involve collection of information on the safety of new drugs. At present, drug sponsors do not systematically compile new safety information learned about a drug and submit it to FDA while their new drug application is undergoing agency review. To be sure that the approval of a drug is based on the most up-to-date safety information, the agency is proposing to require that sponsors submit new safety data at four-month intervals during the review and after receiving an approval letter.

FDA also proposes to strengthen its monitoring of adverse drug effects by continuing to require prompt reporting of serious new adverse experiences within 15 days. The agency will also expand reporting of all other adverse experiences within 30 days by broadening the scope of what must be reported.

Finally, of no small interest is a change in FDA's policies regarding importation of drugs. The proposed regulation would allow an individual—a foreign visitor or a home-bound U.S. citizen—to bring into the United States a reasonable quantity of an unapproved drug product for personal use, thereby facilitating more efficient use of FDA resources. This does not apply to drugs controlled by the Drug Enforcement Administration under the Controlled Substances Act or to people who try to get around federal restrictions on drug manufacturers and distributors.

Overall, the proposed changes in the new drug regulations should serve the public interest by improving FDA's management effectiveness and by adding new safety protections for consumers. It is expected that the changes will reduce by six months the time it takes a drug to go through the approval pipeline. This reduction will be somewhat less for the most significant new drugs, which are already being given priority review (see “Providing a Breakthrough for Drugs with Promise” in the July-August 1979 FDA Consumer).

—Annabel Hecht
Got a persistent headache? Bad case of the sniffles developing? Stomach upset?

Relief may be as near as the nearest drug or grocery store. Indeed, across the nation there are some 250,000 outlets that sell an estimated $6 billion worth of nonprescription medicines a year.

But confidence in the system that provides those medicines was badly shaken in October 1982 when seven persons in the Chicago area died within a few days of each other after swallowing capsules of a product purchased at local stores. The capsules had been maliciously adulterated with cyanide poison by a person or persons unknown.

True, the manufacturer had followed the usual care as well as FDA's good manufacturing practices in producing the capsules that were subsequently poisoned. However, the prevailing presumption was that the packages containing the poisoned capsules had been placed surreptitiously on store shelves alongside other, undistributed packages of the same product. They were purchased off the shelves by random shoppers. The deaths followed.

Because the killings were random and wanton, they created heavy and extensive publicity. Within 24 hours of the report of the first deaths, more than 1,000 calls from the press were received by the manufacturer, FDA's headquarters and Chicago District offices, the Cook County (Chicago) medical examiner's office, and the Proprietary Association, which is a trade group for nonprescription drug makers.

One polling firm found that in just a few days 99 percent of the public knew of the tragedies.

Until the Chicago deaths, the nonprescription drug industry and its regulator (FDA) had believed that the public was assured a safe product. But they hadn't reckoned with the havoc that a few irrational individuals might cause. Obviously, some action was needed to reassure a shaky populace, as well as some way of reducing the odds that tampering with a nonprescription drug product could happen again without the buyer noticing.

Federal officials decided, and the industry agreed, that more secure packaging was needed. Within 35 days—on Nov. 4, 1982—FDA had entered into the Federal Register a regulation tightening the rules for packaging most nonprescription drugs. The regulation set deadlines for the industry to comply, the first coming in 90 days and full compliance expected within 15 months. The 15-month benchmark was set so as to give the public a definite date when it could count on virtually all over-the-counter drugs having tamper-resistant packages. On the other hand, the 15 months was considered a reasonable time for manufacturers, distributors and sellers to adjust their packaging to the new rules.

Covered are nonprescription products for oral, nasal, otic (ear), ophthalmic (eye), rectal and vaginal use, plus certain cosmetic products subject to tampering, such as mouthwashes. Included in a separate regulation are contact lens solutions.

Excluded are products applied to the skin, dentifrices such as toothpaste, and insulin. These excluded products are usually not vulnerable to tampering or, even if tampered with, would result in less serious injury.

Also required is a label warning telling how to check for signs of tampering and alerting the purchaser when the seal has been disturbed, and a distinctive design such as a logo on sealing materials to make it more difficult to restore the seal after it has been removed.

The first deadline of 90 days (or Feb. 7, 1983) requires tamper-resistant packaging on most nonprescription capsule and liquid drugs, including eyedrops. Also subject to that deadline are mouthwashes and contact lens solutions. What the deadline means is that all those products manufactured on or after that date must be in the tighter packages.

The second deadline is May 5, 1983, or six months after the rules were proposed. At that time, all over-the-counter drugs in tablet form for oral or vaginal use and all vaginal and rectal suppositories must be packaged in tamper-resistant containers. The label warning must also be included on packages manufactured on or after that date.

After Feb. 6, 1984, no over-the-counter drug covered by the regulations can be sold without tamper-resistant packaging. The FDA regulations also apply to imported products of the same kind. Despite the seeming thoroughness of the regula-
The photo facing page 13 is of individual nonprescription drug capsules that are enclosed in the pockets of a combination package which has transparent semi-rigid blisters to display each capsule on one side of the card and aluminum foil covering the pockets on the reverse side. Capsules are removed by pushing down the plastic blister with the thumb with enough force to break the foil.

The photo at the top of this page is of a bubble pack, with the product container sealed in plastic and mounted on a display card. At bottom is a bottle that's sealed across the mouth with foil. Such seals may be of foil or paper, and bottles may be of plastic or glass.
tions, FDA has emphasized that no packaging can be made completely tamper-proof. However, the object is to make the package more difficult to meddle with and to make consumers more likely to recognize those that have been disturbed. Buyers should still protect themselves by closely checking the condition of packages they buy, the tablets and capsules they take, and the liquids they drink or otherwise use.

The agency listed several tamper-resistant packaging techniques decided upon after consultation with the OTC drug industry. These offer manufacturers various alternative ways of making their packages tamper resistant. Any other method is acceptable if it provides comparable assurance of safety, FDA said. The agency suggested that packages not be made too difficult to be opened by arthritis victims and other manually impaired persons.

The suggested packaging methods:
- **Film wrappers.** A transparent film with distinctive design is wrapped securely around a product or product container. The film must be cut or torn to open the container and remove the product.
- **Blisters or strip packs.** Dosage units (for example, capsules or tablets) are individually sealed in clear plastic or foil. The individual compartment must be torn or broken to obtain the product.
- **Bubble packs.** The product and container are sealed in plastic and mounted in or on a display card. The plastic must be torn or broken to remove the product.
- **Shrink seals and bands.** Bands or...
The photo at the top left shows a bottle with a shrink-seal band of plastic material enclosing part of the cap and bottle neck. The cap is freed by tearing or cutting the seal.

At top right is a container enclosed in a transparent film wrapper. The film may be wrapped around the immediate container or around the entire carton, as shown here.

The bottom photo is of a bottle with plastic cap joined to a ring around the bottle neck by breakaway strips of plastic. The ring is broken when the cap is turned forcibly.

Wrappers with a distinctive design are shrunk by heat or drying to seal the union of the cap and container. The seal must be cut or torn to open the container and remove the product.

- **Foil, paper or plastic pouches.** The product is enclosed in an individual pouch that must be torn or broken to obtain the product.
- **Bottle seals.** Paper or foil with a distinctive design is sealed to the mouth of a container under the cap. The seal must be torn or broken to open the container and remove the product.
- **Tape seals.** Paper or foil with a distinctive design is sealed over all carton flaps or a bottle cap. The seal must be torn or broken to open the container and remove the product.
- **Breakable caps.** The container is sealed by a plastic or metal cap that either breaks away completely when removed from the container or leaves part of the cap attached to the container. The cap must be broken to open the container and remove the product.
- **Sealed tubes.** The mouth of a tube is sealed and the seal must be punctured to obtain the product.
- **Sealed carton.** All flaps of a carton are securely sealed and the carton must be visibly damaged when opened to remove the product.
- **Aerosol containers.** Aerosol containers are inherently tamper resistant.

Some covered products already come in packages that are essentially tamper resistant, FDA noted, but of course they do not have the required labeling notices of how to check for tampering.

For these products, it may be just a matter of more complete labeling.

In publishing the regulation, FDA asked for comments within 30 days. The agency intends that its regulations will preempt any state and local requirements covering tamper-resistant packaging when they are at variance with the federal requirements. Conflicting requirements could disrupt the industry distribution patterns and thus the nation's health-care system, FDA said.

The additional cost of tamper-resistant packaging is likely to increase the prices of OTC drugs overall about 1 percent, FDA estimated. About 2 billion packages a year will be affected. Industry experts figured the extra costs per package would run from a fraction of a cent for a popular method such as a shrink seal to several cents for bubble packs and manual seals. At 0.5 to 2 cents per retail package, industry costs should be $10 million to $40 million a year and nonrecurring costs an initial $10 million.

Pending the regulations being put into force, FDA started an intensified information campaign to urge the public to make a close examination of all OTC drug packages purchased for signs of tampering. As the effective dates of the regulation approach, tamper-resistant packages with appropriate labeling information should begin appearing on drugstore shelves.

*Harold Hopkins is editorial director of FDA Consumer.*
The victim had been hospitalized with severe stomach cramps. Gamet arrived at the hospital by 5:45 p.m. and was able to interview the patient, as well as the physicians, who had already made a surprising discovery. As part of their work-up, they had taken an abdominal X-ray and found a mass in the patient’s stomach, about the size of a quarter, that appeared totally opaque on the film.

The patient, severely ill and barely able to speak, whispered to his interviewers that the only things he had ingested that day were a cup of coffee and three Extra-Strength Excedrin capsules. The recent incident of tampering with Tylenol capsules was in the minds of all present, and the bottle of Excedrin had already been brought to the hospital. The physicians needed a diagnosis to treat the man, whose condition was deteriorating rapidly.

How could they find out what was in his stomach?

Investigator Gamet had an idea: X-ray the suspect bottle. In the hospital X-ray department, the film of the bottle and its contents shocked all who saw it. Within the outline of the bottle were 10 opaque capsules, surrounded by the shadows of 45 others.

The suspect bottle was delivered immediately to FDA’s district office laboratory, where waiting analysts sorted out the suspect capsules by weight. Knowing that they were looking for a radiopaque substance, they were able to identify the capsule contents as mercuric chloride, a potent and corrosive poison.

By 9 p.m. the patient’s physician was notified and appropriate treatment was initiated. The Rocky Mountain Poison Control Center was also alerted.

FDA’s Denver employees then set about solving the next problem, which was to determine if there were other similarly contaminated capsules on the market. The X-ray had shown itself to be a rapid screening method, but FDA did not have an X-ray device available.

The Denver District office shares the U.S. Customhouse with the recruiting stations for all branches of the armed forces. Physicals for recruits are performed in the building, and an X-ray machine is located on the second floor. Quick negotiations with Defense Department personnel resulted in ready FDA access to the equipment.

During the following four days, FDA investigators visited 140 stores and collected 5,683 bottles of capsule products. Screened by X-ray, none was found to be similarly contaminated. However, as a precautionary measure, the manufacturer recalled all Extra-Strength Excedrin capsules in Colorado and Wyoming.

LeRoy M. Gomez is director of FDA’s Denver District.
Why People Don’t Take Medicines Properly

by Judith Willis

She took the green paisley kerchief her grandson had given her for Christmas and tied it around her head. After a check with the mirror, she left her tiny apartment, making sure the door had locked behind her. She had lived alone since her husband died and her two children moved to other cities.

At the corner of her street, she waited for the crosstown bus to take her to the medical center where she was going to have her first chemotherapy treatment. During the 45-minute ride, she tried watching the other passengers to divert her mind from what might lie ahead and what the cancer inside her might be doing.

At the medical center, the doctor explained the new drug treatment to her. He also told her he would give her a drug to stave off the nausea and vomiting that was often a side effect of chemotherapy. Even so, he cautioned, she might have some sickness after the treatment.

During the bus ride home, the nausea came. She tried to choke it back but couldn’t. Despite using her kerchief to contain it, she could not hide her sickness from the other passengers. They stared and backed away from her as best they could on the crowded rush-hour bus. Embarrassed, she got off the bus three stops early and, sick as she was, walked the rest of the way home.

She never returned for another chemotherapy treatment and died three months later, literally embarrassed to death.

She had told her son of the embarrassment and he had urged her to return to the clinic, but she would have none of it. When the son came home for the funeral, he related the incident to her doctor. The physician was dismayed. She had never mentioned that she had to ride a bus home, and he had never thought to ask about it.

“If I had known,” he told the son, “I could have made arrangements for her to stay overnight at the hospital, or we could have had someone drive her home.”

In medical parlance, the woman’s response to the situation is known as “noncompliance.” She had failed to comply with the physician’s directions.
about the medicine. While the results in her case were more dramatic than most, noncompliance—or failure to take medicines properly—is more than a minor health problem. Indeed, studies have shown that, on the average, one-third to one-half of patients fail to take their medicines as prescribed.

The figures apply whether the medication is an antibiotic, a tranquilizer, a heart drug, hypertension medication or any other type of medicine. Sometimes the drug isn’t taken at all, but more often the person is not taking it correctly—e.g., at the wrong time of the day, in the wrong amount, skipping doses, or stopping the drug too soon.

The reasons for this pervasive noncompliance are many and varied, but at the root is usually some lack of communication between the patient and the health-care provider.

Just how great the need is for communication between patient and professional was brought out recently in a survey done for the Food and Drug Administration by Chilton Research Inc. The survey covered 1,104 persons who had a new prescription filled within the preceding four weeks. More than a third of them—35 percent—said they were given no information by their physician or pharmacist about the drug. And less than 5 percent asked for information.

Some 65 percent reported receiving some information from their doctor, and another 37 percent said they got some from their druggist. As those two figures total more than 100, it’s apparent that some of them got information from both sources. However, the survey repeated what earlier surveys had shown—that there is often a lack of communication between doctor and patient.

Experts who have studied patient compliance say there is little doubt that overall medicine-taking habits would be improved if patients received more complete information about their drug and its regimen.

However, all the information that physicians and pharmacists can provide wouldn’t solve the problem in some cases, such as our bus-riding chemotherapy patient. For example, one study of hypertension patients found no improvement in compliance despite an extensive education program that included brochures, slide-tape presentations and pill-taking reminders.

Another group of high blood pressure patients took part in a five-month education program at a neighborhood pharmacy. There, medication adherence was good during the five months, but afterward they slipped back into their old habits.

Written information may help—but it is not necessarily a solution. For example, a study of patients prescribed antibiotic drugs showed that compliance generally improved when they were given written information about the drug. The written information was particularly effective when accompanied by aids such as pill calendars, which are compartmentalized boxes for the precise number of pills to be taken each day.

But two FDA experts, writing in the American Journal of Public Health (January 1979), doubted the value of written information as the sole means of improving compliance when patients are on long-term medication. Louis A. Morris, Ph.D., and Jerome A. Halperin, M.P.H., wrote:

"... Written information by itself has not been associated with improved long-term compliance. ... Extensive evaluations of any number of other interventions used to improve long-term compliance have not shown any technique to be successful. Long-term improved compliance, like any behavior change, remains extremely difficult to accomplish. Currently, the best approach seems to be multifaceted education and behavioral intervention tailored to the needs of the patient."

Morris and another colleague, Philip Ley, Ph.D., of the University of Sydney, Australia, say that not taking medicine properly may be intentional or unintentional. They have found that the person whose lack of compliance is unintentional and who has incorrect or incomplete information will take the medicine properly if given adequate information. If that same person is not complying because of a lack of skills, he or she will do the right thing if the skills are developed through instruction. An example of this would be a diabetic who learns to give himself insulin injections.

Patients purposely not taking their medicine correctly need not only more information and instruction but also motivation and persuasion. The practitioner is then often presented with an ethical question: How much coercion can be used to persuade the patient to take the medicine properly?

But Morris and Ley say that much can be done by both the patient and the health professional by improving communications. Health practitioners should be expected to explain about the disease and medication, but the patient needs to take on the responsibility of informing the doctor about other factors that might influence his or her ability to follow instructions. These other factors may include the patient’s own motivation, the home or work environment, and other possible barriers.

Patients should also make sure they know the answers to some elementary questions before leaving the doctor’s office. These questions include:

• How long do I have to take this medication?
• How often?
• When—with meals, before meals, or after meals?
• Is the spacing of the doses important?
• What should I do if I miss one dose? More than one dose?
• If I feel better, should I stop taking the drug?

The starting point to good compliance is good two-way communications, experts such as Morris and Ley say. The doctor provides the basic information, and the patient provides feedback on his or her individual situation. It’s far better to communicate than to be noncompliant and spend one’s health and wealth on visits to the doctor and prescription drugs that don’t get a chance to do any good.

Judith Willis is editor of FDA’s Drug Bulletin, a periodical for health professionals.
POTASSIUM
Keeping A Delicate Balance

Over the last few years Americans have been inundated by advice and warnings about sodium. They have been told it may contribute to high blood pressure, that it is widely present in the foods they buy, and that most people eat more sodium—mainly in the form of regular table salt, which is 40 percent sodium—than they need.

People trying to curb sodium intake also need to be aware of another essential nutrient—potassium—because of the interrelated role these two chemically similar minerals play in the body.

Sodium and potassium, along with other minerals, are vital to regulation of various body processes, including maintenance of normal water balance, conduction and transmission of nerve impulses, muscle contraction, heart action, and functions of some enzyme systems. In the healthy individual the kidneys, through excretion and conservation, maintain steady levels of sodium and potassium in the body, even when the amounts of these minerals in the foods eaten vary widely.

Water and mineral salts provide a medium in which nearly all of the body's reactions take place, and they play a crucial role in the transportation of key materials into and from the cells. All of the cells are bathed in water that contains the dissolved substances needed. The cells undergo loss and replacement of their constituent parts constantly, withdrawing nutrients and oxygen from the fluid outside and excreting carbon dioxide and other waste material.

The fluid between the cells (called interstitial fluid) always has high concentrations of sodium and chloride. The intracellular fluid—that inside the cells—always has high potassium and phosphate concentrations.

However, certain medical conditions can adversely affect the body's ability to regulate properly the excretion of sodium, causing excess amounts to accumulate in the body. Many people under treatment for hypertension (high blood pressure), heart disorders and kidney diseases have to limit their sodium intake and also must often control potassium intake because depletion or excesses of this mineral may occur in the body.

Dietary deficiencies of potassium are rare but can occur among people suffering from malnutrition or living on starvation diets. Prolonged vomiting and diarrhea, severe burns or other injury, or surgery also can lead to potassium losses. Further, individuals taking certain diuretics and purgatives can have potassium losses that require supplementation either by eating more foods high in potassium or taking dietary supplements. Such supplementation generally is done under a physician's guidance. (Potassium supplement prescriptions ranked 17th among the top drug entities in 1980, the last year for which statistics are available, according to an audit done by IMS America Ltd., a pharmaceutical auditing service. IMS said prescriptions for those supplements totaled 18.9 million during the year.)

Potassium can increase to harmful levels in the blood when the body's normal ability to excrete this mineral is diminished. This condition is frequently a concern for individuals with heart or kidney disorders and may result in the disruption of normal heart function. Such persons require medical supervision to control their intake of potassium.

Because human needs vary so much, nutrition experts cannot say precisely how much sodium and potassium an individual should consume. The most reliable norms today are the "estimated safe and adequate" daily dietary intakes that have been suggested by the Food and Nutrition Board of the National Academy of Sciences-National Research Council. In its 1980 report, the board suggested a daily consumption of 1,100 to 3,300 milligrams for sodium and 1,875 to 5,625 milligrams for potassium. These estimates were cited for healthy adults who follow a normal activity pattern. Consumption within these ranges is considered safe for the general population.

Like sodium, potassium is so readily available in the food supply that natural deficiencies are quite uncommon. Nutrition experts say that people who are in good health can easily obtain enough potassium by following a proper diet. Good food sources for potassium are bananas, avocados, raisins, cantaloupes, dried dates, apricots, meats, milk, tomato juice and dark green leafy vegetables.

Besides being found naturally in foods, potassium also reaches the consumer's body in other ways: as a nutrient added to foods; in tablets, capsules or liquids sold in retail outlets; in some prescribed drugs; and in substitutes for table salt.
Substitutes for table salt usually have potassium chloride as the main ingredient. FDA regards salt substitutes as foods for special dietary use and as drugs. As such, the labels on the products must state, as this one does, that the substitutes should be used only on a physician's advice.

As an added nutrient, potassium can be found in fruit jellies, preserves and jams, fruit ices, baked goods, soups, soft candy, gelatins, nonalcoholic beverages, infant formulas and other products. Its principal uses in various foods are as a flavoring agent, flavor enhancer, stabilizer or thickener, and as an acid control agent. It also is added to seasonings—particularly salt substitutes—and spice mixtures. Potassium chloride is used in many salt substitutes and is a common form in which potassium is added to foods.

On Aug. 20, 1982, the Food and Drug Administration published a proposal to reaffirm the "generally recognized as safe" (GRAS) status of potassium chloride as an ingredient added to food. In the proposal, FDA said that scientific and other data on the levels of potassium chloride used in foods indicated that "a large margin of safety exists" and that "a reasonably foreseeable increase in the level of consumption of potassium chloride will not adversely affect human health." However, the agency explained that it could not affirm the GRAS status of potassium chloride as a dietary supplement in tablets, pills and capsules because it did not have adequate data to evaluate such uses.

Under the regulation proposed Aug. 20, tablets or capsules with less than 100 milligrams of potassium or liquid preparations with less than 20 milligrams in a milliliter would be considered dietary supplements. Under FDA's existing drug regulation, which applies to potassium salts (including potassium chloride), tablets or capsules with 100 or more milligrams potassium per unit and liquid preparations with 20 or more milligrams potassium in a milliliter are defined as prescription drugs. This regulation requires a label warning that the drug can cause small bowel lesions. Concentrated potassium chloride can corrode the intestinal lining and should be diluted to prevent damage. Tablets or capsules should be taken with enough liquids to prevent gastrointestinal injury, FDA advises.

Although misuse generally has not been a common occurrence, potassium supplements have been of concern to FDA, which has advised consumers to use them only under the supervision of a physician. Misuse has led to several deaths. One involved a young woman on a liquid protein diet who consumed a potassium chloride medication whenever she felt weak or tired. Shortly before her death she took 47 tablets of potassium chloride. In another, a nursing mother who was following diet advice from a popular health book mixed potassium chloride with her breast milk and fed it to her 2-month-old infant to treat its "colic." The baby died soon after.

In citing these two cases in its Federal Register announcement last August, FDA acknowledged that both were unusual cases. "However," the announcement added, "their occurrence does demonstrate the need for caution in the use of [potassium chloride] dietary supplements. Misuse, even in patients with normal renal and cardiac function, may lead to spurious hyperkalemia [excessive potassium in the blood] and death."

Another source of concentrated potassium is salt substitutes, many of which contain potassium chloride. Commercially available salt substitutes vary in composition, but most often the main ingredient is potassium chloride. It is usually mixed with other substances such as citric acid or other acids, monopotassium glutamate, choline, ammonium chloride, fructose and spices—in effect, combinations that help mask the bitter taste of potassium. The potassium levels in these products vary widely and some also contain sodium.

Over the years FDA has modified its position regarding salt substitutes. In 1949, after receiving reports of poisonings from salt substitutes containing lithium chloride, the agency said it would treat the products as new drugs. At the time, interstate distribution of existing salt substitutes was discontinued, and manufacturers were asked to submit new drug applications to FDA that could be reviewed to determine the safety of each product.

This policy was modified in 1951 as more scientific data on the safety of the ingredients became available. FDA said then that manufacturers should submit for review the composition and proposed labeling for any product to be marketed so that FDA could determine whether a manufacturer had to go through the more complex process of filing a new drug application.

In 1968, FDA announced that salt substitutes would be regarded as foods for special dietary uses and as drugs. Under the drug provisions of the Food, Drug, and Cosmetic Act, the agency said, salt substitute products "should bear a cautionary statement to the effect that they should not be used without the advice of a physician." This is the policy in effect today.

—Chris Lecos
Potassium Content of Everyday Foods

Most of the items listed below are good sources of potassium. A few such as fats, oils, processed cheese, eggs and pizza are listed to show types of foods that tend to be low in potassium. The breads and rice are listed to show the difference between whole grain and refined grain and refined grain products.

<table>
<thead>
<tr>
<th>Beverages &amp; Fruit</th>
<th>Serving Size</th>
<th>Milligrams (mg) Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grapefruit juice, frozen</td>
<td>1 cup</td>
<td>420</td>
</tr>
<tr>
<td>Orange juice, frozen</td>
<td>1 cup</td>
<td>503</td>
</tr>
<tr>
<td>Tangerine juice, frozen</td>
<td>1 cup</td>
<td>432</td>
</tr>
<tr>
<td>Tomato juice, low sodium</td>
<td>1 cup</td>
<td>549</td>
</tr>
<tr>
<td>Prune juice</td>
<td>1 cup</td>
<td>602</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dairy Products</th>
<th>Serving Size</th>
<th>Milligrams (mg) Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>American pasteurized processed cheese</td>
<td>1 oz.</td>
<td>23</td>
</tr>
<tr>
<td>Milk, whole skim</td>
<td>1 cup</td>
<td>351</td>
</tr>
<tr>
<td></td>
<td>1 cup</td>
<td>355</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eggs, Fish, Meat &amp; Poultry</th>
<th>Serving Size</th>
<th>Milligrams (mg) Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg, whole</td>
<td>1 large</td>
<td>65</td>
</tr>
<tr>
<td>Tuna, chunk style, in water</td>
<td>3 oz.</td>
<td>237</td>
</tr>
<tr>
<td>Chicken, lt. meat without skin</td>
<td>3 oz.</td>
<td>369</td>
</tr>
<tr>
<td>Ground beef, lean, cooked</td>
<td>3 oz.</td>
<td>221</td>
</tr>
<tr>
<td>Pork loin, lean, cooked</td>
<td>3 oz.</td>
<td>280</td>
</tr>
<tr>
<td>Sirloin steak, lean, cooked</td>
<td>3 oz.</td>
<td>307</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fast Foods</th>
<th>Serving Size</th>
<th>Milligrams (mg) Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pizza, frozen cheese</td>
<td>1/7 of 11'' pie</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fruits</th>
<th>Serving Size</th>
<th>Milligrams (mg) Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apricots, fresh dried</td>
<td>3</td>
<td>301</td>
</tr>
<tr>
<td></td>
<td>10 med. halves</td>
<td>343</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>Milligrams (mg) Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avocado</td>
<td>1/2</td>
</tr>
<tr>
<td>Banana</td>
<td>1 med.</td>
</tr>
<tr>
<td>Cantaloupe</td>
<td>1/2 melon</td>
</tr>
<tr>
<td>Dates, with pits</td>
<td>10</td>
</tr>
<tr>
<td>Prunes</td>
<td>10 med.</td>
</tr>
<tr>
<td>Raisins, dark, not packed</td>
<td>2 Tbsp.</td>
</tr>
<tr>
<td>Watermelon, diced</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Bread, white whole wheat</td>
<td>1 slice</td>
</tr>
<tr>
<td>Rice, brown, cooked</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Rice, white, cooked</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Spaghetti, cooked</td>
<td>1 cup</td>
</tr>
<tr>
<td>Wheat germ</td>
<td>1 Tbsp.</td>
</tr>
<tr>
<td>Broccoli, cooked</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Brussels sprouts, cooked</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Cauliflower, cooked</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Lentils, cooked</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Mushrooms, raw</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Peanuts, roasted, with skins, jumbo, in shell</td>
<td>10</td>
</tr>
<tr>
<td>Potato, boiled in skin</td>
<td>1 med.</td>
</tr>
<tr>
<td>Spinach, cooked</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Sweet potato, baked</td>
<td>1 large</td>
</tr>
<tr>
<td>Winter squash, baked</td>
<td>1/2 cup</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fats, Oils &amp; Sweets</th>
<th>Serving Size</th>
<th>Milligrams (mg) Potassium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butter</td>
<td>1 Tbsp.</td>
<td>3</td>
</tr>
<tr>
<td>Margarine</td>
<td>1 Tbsp.</td>
<td>3</td>
</tr>
<tr>
<td>Molasses, light</td>
<td>1 Tbsp.</td>
<td>183</td>
</tr>
<tr>
<td>Oil</td>
<td>1 Tbsp.</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: USDA Handbook #456
Today’s Margarine Is Mostly Vegetable Squeezings

by Chris Lecos

It was, without a doubt, one of the most colorful signings of a bill in a state’s history—a governor flanked by 10 women wearing yellow dresses signing a bill into law with a yellow pen and in yellow ink. With the passage of this law in 1967, Wisconsin, a major dairy state, was ending its 72-year-old resistance to the sale and manufacture of colored margarine within its borders. It was the last state in the union to do so.

No longer would it be necessary for women to parade into the state legislature’s chamber adorned in yellow dresses to lobby against the state’s ban on colored oleo. Nor would pro-butter legislators try again to rally their forces with such arguments as: “Is there something wrong with white? Our flag is red, white and blue. I can’t see why you have to have yellow oleo.”

Seven more years would elapse before Wisconsin would lift its remaining barrier, an excise tax of 5¼ cents a pound on margarine. But the distinction of being the last state in the nation to drop its special tax on the product fell to another big dairy state, Minnesota. That occurred in 1975.

With these last gasps of opposition, margarine—the consumption of which had exceeded that of butter long before the lifting of these prohibitions—now would be virtually unencumbered in the American marketplace. No longer would it be necessary, for example, for Wisconsin residents to drive to neighboring Illinois to buy and bootleg colored margarine home in the trunks of their cars. The easy availability of oleo, as many called it then, ended the “gold strike” for those enterprising Illinois merchants on the Wisconsin border who thrived off the trade.

Margarine is today the leading table spread in the United States. Its consumption passed that of butter in 1957, and by 1981 Americans were consuming two and a half times more margarine than butter, according to U.S. Department of Agriculture figures cited by the National Association of Margarine Manufacturers. By 1981, the latest year for which figures are available, margarine was being consumed at an average rate of 11.2 pounds per person each year, compared to 4.4 pounds of butter. By contrast, in 1887, the earliest year for which figures were available, each person ate an average of four-tenths of a pound of margarine and 19 pounds of butter a year.

Margarine was first introduced in this country around 1874, soon after it was patented in 1869 by its creator, a French food chemist who, fortunately for consumers, did not place his own name—Hippolyte Mege-Mouries—on his invention. Mege-Mouries developed the product at the behest of Louis Napoleon III. Anticipating war with the Prussians, Napoleon was anxious to obtain a “suitable substance to replace butter,” a commodity then scarce, costly and, when available, often rancid by the time it was used.

Mege-Mouries actually began working on a suitable substitute fat after a French naval agency commissioned him in 1867 to find an acceptable butter replacement because of growing resentment within the French navy over the serving of adulterated butter. He obtained a patent in 1869 for his product, whose composition included olein or beef fat and margaric acid, a fatty acid component. The fat had a pearly sheen that reminded him of the Greek margarites, meaning pearl-like; hence the name “oleomargarine.”

The product’s introduction in this country was greeted with a multiplicity of laws and court battles as state after state set up its own legal barriers, definitions and special taxes on the product. In 1886 Congress responded to the politics of the time with a law that imposed taxes and other licensing restrictions that would be on the books for 64 years. The federal taxes on yellow and uncolored margarine, along with annual license fees imposed on retailers, wholesalers and manufacturers, remained in force until repealed by the Federal Margarine Act of 1950.

The signing of that law by President Harry S. Truman and the adoption in 1941 and later years of standards of identity for margarine by both the Food and Drug Administration and the Department of Agriculture were events that the margarine industry views as major turning points for the product. At the national level, at least, margarine had gained recognition as a food entity in its own right, and at the same time uniformity was established for the product’s basic composition, says S. F. Riepma, president of the National Association of Margarine Manufacturers.

Although state prohibitions against colored margarine and tax levies on the product continued into the 1960s, Riepma still views Truman’s signing of the 1950 legislation as “our real charter of liberty.” Not only were the federal taxes and licensing fees abolished but the act also amended the federal Food, Drug, and Cosmetic Act and defined margarine or oleomargarine as meaning “all substances, mixtures, and compounds which have a consistence similar to that of butter, and which contain any edible oils or fats other than milk fat if made in imitation or semblance of butter.”
The 1950 act included such provisions as those requiring public eating places to clearly and conspicuously inform consumers that margarine was being served; that the net weight of a package of margarine sold retail not exceed one pound; and that the package label include a "full and accurate statement of all the ingredients" used. Thus, clear-cut labeling and packaging requirements as well as uniformity in the composition of margarines emanated from the legislation.

The margarines sold nowadays are marketed at retail level in solid form as sticks, in softer forms in plastic tubs, and as liquids in bottles, composed mostly of vegetable fats, water and milk solids, and some salt plus small amounts of preservatives, emulsifiers, antioxidants, flavorings and colorants. FDA's present standards require that margarines contain a minimum of 80 percent fat derived from vegetable or animal sources or both. The earlier margarines at the turn of the century were made mainly from animal fats.

After World War I there was a gradual trend toward wider use of vegetable oils that intensified during and after World War II because of serious shortages of fats. Today vegetable oils—especially those from the plentiful soybean—predominate in most margarines. In the 1930s cottonseed oil supplanted coconut oil as a major fat source and it, in turn, has been replaced by soybean oil.

According to the margarine manufacturers group, more than two billion pounds of fats and oils were used in margarines during 1981. Of that total, soybean oil represented almost 1.7 billion pounds, followed by nearly 215 million pounds of corn oil and slightly more than 25 million pounds of cottonseed oil. In addition, 68 million pounds of lard and edible tallow also were used during that year by the margarine industry. These figures include fats and oil in margarines retailed to consumers as well as those margarine products used in food service, baking and industrial operations. In 1941 about 86 percent of the margarines produced were for consumer retail products.

Margarine must have at least 80 percent fat before it can be labeled legally as a margarine or as oleomargarine. Water and nonfat solids make up most of the remaining 20 percent. Skim milk once was used widely, but today this has been largely replaced by nonfat dry milk and whey solids, Riepma says.

Consumers expect margarine to resemble butter, and both natural and artificial coloring substances can provide the look-alike color. Some margarines use natural carotene or a synthetic version of it for coloring. Carotenes and their oxygen derivatives constitute what are known as carotenoids, a class of compounds that are widely distributed in nature and are responsible for much of the yellow, orange and red coloring of plants. FDA recently proposed reaffirming the "generally recognized as safe" (GRAS) status of the synthetic version as a direct human food ingredient. That version is obtained in concentrated form from carrots, palm oil and other vegetable sources. Carotenes are provitamin A, which means the body can transform them into a vitamin A nutrient. The tropical annatto plant also is used to provide color in some margarine. The coating of its seed has a substance called bixin, used widely in food coloring.

Consumers also expect margarine to resemble butter in taste. This is accomplished through flavoring agents or enhancers. A common flavoring agent is diacetyl, a substance also found in butter.

Salt can account for roughly 1.5 to 3 percent of the content of a margarine. It is used for taste and as a preservative. However, some margarines are made without salt; FDA also allows potassium chloride to be used in dietary margarines. Sodium benzoate is another common preservative used in margarines, protecting the product from mold or yeast. Others that may be used are potassium sorbate, calcium disodium EDTA, isopropyl citrate or stearyl citrate.

Margarine, like butter, is a water-in-oil emulsion, and additives known as emulsifiers are used to keep the water and oil from separating. The main emulsifiers used are lecithin, a fatty substance derived from egg yolk or certain vegetable sources such as the soybean, and glycerine derivatives. Lecithin also helps control spattering when margarine is used in frying.

Edible fats and oils, when refined for use in margarines, shortenings, salad dressings and other foods, also may contain stabilizers that are added to prevent or delay development of rancidity associated with oxidation. Citric or phosphoric acid often is used during refining to remove trace amounts of metals that would catalyze oxidation of the finished product.

All margarines must contain a minimum of 15,000 International Units (I.U.) of vitamin A in each pound. Manufacturers also have the option under FDA's standards to add vitamin D; when added, a minimum of 1,500 I.U. per pound is required. Because of their high fat content, margarines are a concentrated source of food energy or calories (about 3,300 calories to a pound, or roughly the same as butter).
This 1967 photo shows an attendant at an Illinois truck stop near the Wisconsin border loading cases of margarine into a Wisconsin resident's car. Shortly after this picture was taken, Wisconsin Gov. Warren Knowles signed a law making colored margarine legal in the state and ending scenes such as this one. (AP photo courtesy The Milwaukee Journal)
National Average Consumption of Margarine and Butter

*(pounds per capita)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Margarine</th>
<th>Butter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1887*</td>
<td>0.4</td>
<td>19.0</td>
</tr>
<tr>
<td>1910</td>
<td>1.6</td>
<td>18.3</td>
</tr>
<tr>
<td>1920</td>
<td>3.4</td>
<td>14.9</td>
</tr>
<tr>
<td>1930</td>
<td>2.6</td>
<td>17.6</td>
</tr>
<tr>
<td>1940</td>
<td>2.4</td>
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<td>1950</td>
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<td>10.7</td>
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<tr>
<td>1960</td>
<td>9.4</td>
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<tr>
<td>1970</td>
<td>11.0</td>
<td>5.3</td>
</tr>
<tr>
<td>1980</td>
<td>11.3</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Source: National Association of Margarine Manufacturers, based on data from U.S. Department of Agriculture.

*Earliest year figures available for comparison.*

Fats and Oils Used in Margarine in 1981

<table>
<thead>
<tr>
<th></th>
<th>Millions of Pounds</th>
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<tbody>
<tr>
<td>soybean oil</td>
<td>1,689.0</td>
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<tr>
<td>corn oil</td>
<td>214.8</td>
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<tr>
<td>cottonseed oil</td>
<td>25.2</td>
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<tr>
<td>safflower seed oil</td>
<td>0</td>
</tr>
<tr>
<td>peanut oil</td>
<td>0</td>
</tr>
<tr>
<td>lard and edible tallow</td>
<td>103.9</td>
</tr>
<tr>
<td>palm oil</td>
<td>0</td>
</tr>
<tr>
<td>all other</td>
<td>29.8</td>
</tr>
</tbody>
</table>


Besides vitamin A and, if added, vitamin D, they also may contain a small amount of vitamin E, which may be naturally present in the vegetable oils and other ingredients used. The amount of essential fatty acids and vitamin E present in a certain margarine depends on the type of vegetable oil used and the margarine itself.

Margarine starts out as oil from one or more of a variety of vegetable or animal sources. While still liquid, the oils are refined, heated to remove impurities, bleached to remove unwanted colors, and otherwise processed to eliminate unpleasant odors. They are then partially hardened by a process known as hydrogenation so that they will remain in a plastic or semi-solid state at room temperatures of about 75 degrees Fahrenheit. Hydrogenation can be carefully controlled to achieve the manufacturer’s desired results. When the oils used in margarines are hydrogenated, FDA requires this to be stated in the ingredient statement of the label. If an oil is completely hydrogenated or hardened, it would actually end up as a hard, brittle solid. The softer margarines in tubs consist of oils that have not been hardened to the extent of those packaged in sticks or blocks. Softer margarines have a higher proportion of unsaturated fat.

More than 1.3 billion pounds of margarine were produced in 1981 in “stick” form—that is, in quarter-pound shapes as butter often is sold. Stick margarines represented about 60 percent of the more than 2.2 billion pounds of margarine produced for consumer retail use in 1981. About 20 percent of the total retail production—some 455 million pounds—was the so-called soft margarines. Another 294 million pounds—about 13 percent of total retail production in 1981—was for imitation, diet and spread products, according to the National Association of Margarine Manufacturers.

The latter products cannot be labeled as a margarine or as oleomargarine because their fat content is well below the 80 percent minimum. Generally, the spread products range from 40 to 60 percent fat. Current FDA policy views these products as margarine or butter substitutes if they are nutritionally equivalent. A regulation proposed in 1976 by FDA says that these products should be described as “spreads”—for example, “vegetable oil spread.” Their lower fat content also must be identified on the label. Spreads with a lower fat content always have a much higher water content, ranging from 36 percent in the lighter blends to 56 percent in diet imitation blends, according to the margarine manufacturers association.

A 1977 survey of 40 margarines by USDA indicated that stick margarines made from partially hydrogenated soybean and cottonseed oil were far and away the largest volume category. Stick margarines composed of corn (maize) oil and partially hydrogenated corn oil and those from partially hydrogenated soybean oil and liquid cottonseed oil ranked second and third.

Margarine makes little or no contribution to dietary cholesterol levels, and consumers who are medically advised to follow a low-cholesterol diet usually are instructed to use a low-fat diet margarine as a table spread. However, FDA nutritionists point out that one’s total dietary intake must be taken into consideration when trying to lower cholesterol intake. As a form of guidance, FDA officials cite the dietary guidelines that USDA and the Department of Health and Human Services published in 1980.

According to the guidelines, people with diets that are high in saturated fats and cholesterol tend to have high blood cholesterol levels, placing such individuals “at greater risk of having a heart attack than people eating low-fat, low-cholesterol diets.” Acknowledging that there is controversy even among nutrition scientists over what is appropriate for the health of Americans, the guidelines recommend that “for the U.S. population as a whole, reduction in our current intake of total fat, saturated fat, and cholesterol is sensible. This suggestion is especially appropriate for people who have high blood pressure or who smoke.”

Chris Lecos is a member of FDA’s publications staff.
The Notebook: a potpourri of items of interest gathered from FDA news releases, other news sources and the Federal Register (designated FR, with date of publication). The Federal Register is available in many large public libraries.

- G.D. Searle and Co. has asked FDA to allow use of aspartame as a sweetener in carbonated beverages (FR Oct. 15). . . . The Calorie Control Council and Abbott Laboratories have filed a similar petition for the safe use of cyclamic acid, sodium cyclamate and calcium cyclamate as non-nutritive sweeteners (FR Nov. 12).

- FDA has decided that Lacrisert is a drug and not a medical device. Lacrisert is a rod-shaped, water-soluble preparation that creates tears when placed under the eyelid. It is used to treat severe dry eye syndrome and other eye diseases (FR Oct. 15).

- Researchers at Baylor University Medical Center found that starch-blocker tablets do not inhibit the digestion and absorption of starch calories in humans. The tablets have been claimed to allow a person to eat starchy food without gaining weight. In an article in the Dec. 2, 1982, issue of the New England Journal of Medicine the researchers said the tablets may not work because the body produces more starch-digesting enzymes than the starch blockers can block.

- FDA is proposing to allow manufacturers of soft drinks in cans to list their name or the name of the packer or distributor on the lid, giving them the flexibility now available to manufacturers of soft drinks in glass bottles (FR Nov. 16).

- The new label warning pregnant and nursing mothers to seek the advice of a health professional before using certain nonprescription drugs must appear on these products by Dec. 3, 1983. Required on all nonprescription drugs that are intended to be systemically absorbed into the body, the warning will say, "As with any drug, if you are pregnant or nursing a baby, seek the advice of a health professional before using this product." (FR Dec. 3).

- Hunt-Wesson Foods Inc. has been issued a permit for test marketing a salt-free tomato juice made from concentrate (FR Nov. 16).

- MEDICAL DEVICE CLASSIFICATIONS: FDA has proposed reclassifying certain hydrogel (soft) and rigid gas-permeable contact lenses from Class III (premarket approval) to Class I (general controls), allowing manufacturers to show that the lens material is equivalent to materials already known to be safe and effective instead of conducting clinical trials of their products (FR Nov. 26). . . . Serologic reagents for herpes simplex and rubella viruses were moved from Class II (performance standards) to Class III in final classification of 162 immunology and microbiology diagnostic and laboratory devices (FR Nov. 9).

- The closing date for the provisional listing of FD&C Blue No. 2 was postponed to Jan. 28, 1983, allowing its continued use in foods and ingested drugs pending a rule permanently listing it (FR Nov. 2). . . . Colors permanently listed: D&C Green No. 5 for general use in drugs and cosmetics, except in the area of the eye; D&C Orange No. 5 for use in lipsticks, mouthwashes and dentifrices; FD&C Green No. 3 for use in food, drugs and cosmetics, except in the area of the eye; and FD&C Red No. 20 and Red No. 22 for general use in drugs and cosmetics, except in the area of the eye (FR Nov. 2, Nov. 19 and Nov. 30).
Over-Cured

The Deli-Delight Co. of Maryland Heights, Mo., a food manufacturer selling to delicatessens and food stores, decided earlier this year to offer its cold-cured (smoked) salmon for export. The firm needed a "Certificate of Free Sale" from the Missouri Department of Health. To obtain the certificate, the firm requested an inspection by FDA's St. Louis Station.

The inspectors found that Deli-Delight had recently changed its method for "brining" raw salmon. In addition to the traditional soaking in brine, a brine solution was being injected directly into the fish with a syringe and needle.

The inspectors noted that the processors were not checking the needles before or after use to be certain they were not clogged. They also noted that the finished product—the brined (cured) salmon—was not tested to determine levels of sodium nitrite and nitrate preservatives.

Samples of the salmon were analyzed for sodium nitrite in FDA's Kansas City laboratory, and 300 parts per million were found in the fish. Food additive regulations permit only 200 parts per million.

After being informed of the illegally high levels, Deli-Delight recalled the smoked salmon it had shipped. The firm also reduced the amount of sodium nitrite in the brining solutions, established closer controls over the injection and other processes, and was then found qualified for export certification.

Doughnuts Dumped

An entire day's production of doughnuts, worth some $4,000, was diverted to animal feed by the Haas Baking Co. of St. Louis, Mo., after FDA inspectors found live insects in and on dough processing areas.

The firm had a supply of dough in what bakers call a "proof box" being held until it had risen and could be shaped into doughnuts. There also were trays of doughnuts in the box, rising a bit more before going into the deep-fry vats.

Inspectors from FDA's St. Louis Station noted insects on top of the box, several entry points where they could get inside, and some insects already inside.

Haas immediately stopped production of its doughnut line and cleaned up the work areas. In addition to the doughnuts diverted to animal feed, the firm voluntarily destroyed two large lots of flour and other raw materials found infested with insects.

Tough Ohio Law

A prison sentence of at least one year—and up to 10 years—and a fine of up to $5,000 are the penalties for promoting or encouraging drug abuse in Ohio.

These are the provisions of a new (1982) state law, directed to what are known as look-alike drugs. These are compounds that resemble or are claimed to be controlled dangerous substances.

Developed in cooperation with the Ohio State Board of Pharmacy, the law makes it illegal for anyone to promote drug abuse by claiming that a look-alike drug provides the physical and psychological effects associated with those desired from controlled substances. A counterfeit is defined as being "any substance that is represented to be a controlled substance but is not" and any substance that a reasonable person would believe to be a controlled substance "because of similarity in size, shape, color, markings, labeling and packaging."

The Ohio law also prohibits the advertising of counterfeit controlled substances, and makes it illegal to manufacture or provide tools and equipment to print or label counterfeit substances so that they resemble drugs of abuse.

A first conviction for possession of a controlled counterfeit substance is a misdemeanor, but previous convictions under any state or federal drug abuse statute make possession a felony.

The new law is part of the revised legal code of Ohio, and all state and local law officers have authority to enforce it.

The state of Ohio now requires that all drugs in tablet or capsule form have identifying markings or designs that are registered with the State Board of Pharmacy, and the board has computerized these identifications for easy recall.
**Jumpy Frog Legs**

Ocean-hopping frog legs were seized by a U.S. marshal after FDA discovered they had been offered for import into the United States once before—and rejected because of *Salmonella* contamination. In between the first and second tries, the frozen frog legs traveled to Rotterdam, Holland. To prevent a possible third appearance of the contaminated product on U.S. shores, seizure was made at the recommendation of FDA’s New York Import District. FDA eventually agreed to allow the product to be reconditioned (made safe to eat) so that it could be imported.

It all began with the appearance at Ellison Terminal, Port Newark (N.J.), of three shipments of frog legs from India. One lot, consisting of 1,337 cases, was offered for import by Weinstein International Corp., Minneapolis. Two lots of frozen frog legs, consisting of 540 cases each, were offered by Pan American Seafood Inc., Fairfield, N.J.

Samples were taken from each lot and sent to FDA’s New York Regional Laboratory for analysis. When the laboratory confirmed the presence of *Salmonella* bacteria in all three shipments, FDA refused to allow their entry into the United States. Both importers decided to re-export the frog legs, and the three lots were consolidated by a customs broker and shipped to Rotterdam, where a firm called Wolffoods BV took possession.

Six months later, an FDA import inspector sampled a shipment of 2,417 cases of frog legs at the same Port Newark terminal. They were newly arrived from Rotterdam. She noticed that the cartons bore double warehouse numbers and that some showed evidence of previous sampling by FDA. (Inspectors mark cartons from which samples are drawn with “FDA,” their initials, the date and the number of samples removed.) This was a tribute to the inspector’s sharp eyes, as only 45 cases of the 2,417 had been previously sampled and bore the telltale marks.

FDA records established that the shipment was a consolidation of the three lots that had previously been refused entry. Contact with Weinstein International and Pan American Seafood revealed that no reconditioning of the product had taken place. Seizure of the goods—valued at $35,000—was recommended by FDA and ordered by the U.S. District Court for the District of New Jersey.

As provided by law, the firm filed an application to recondition the product under FDA supervision. Since spoilage was not involved, the product would be processed to kill the *Salmonella* bacteria, refrozen, and repackaged to assure its safety and wholesomeness before FDA approved its importation.

**Dirty Dealings**

Tablicaps Inc., Franklinville, N.J., has been ordered to take time off for bad behavior.

A judge for the U.S. District Court of New Jersey issued a temporary restraining order against the firm and its president, Bela G. Jancsik, halting processing, packaging or labeling adulterated pharmaceuticals at the company’s plant.

The court action was initiated by FDA’s Newark District office after a recent inspection revealed serious violations of Good Manufacturing Practice regulations. During the inspection, investigators found poor manufacturing controls over the entire operation, a lack of record keeping, possible cross-contamination of drug products, and inadequate personnel performance and supervision.

In addition, the inspection uncovered evidence of filthy conditions, the presence of insects, fungi on the walls of a coating room, a leaking roof, inoperative drains, and a lack of hot water in the rest room and lunchroom areas.

On Aug. 10, 1982, Jancsik appeared before the court and entered into a consent decree of permanent injunction in which he agreed to bring the firm’s facilities and operations into compliance before resuming manufacturing and distribution.

He also agreed to stop production and distribution until FDA had made an in-depth inspection of the firm’s operation and controls, to assure that only safe and effective drugs would be marketed.

Tablicaps produces both prescription and nonprescription dosage form pharmaceuticals.
**Name Game**

Quack promoters typically are "hit and run" artists who manage to stay in business by changing the names of their products, the names of their companies, or both.

During a recent FDA probe of two quack drugs in New York, investigators found a distributor that changed the names of its products and used the guise of a mail-order center to distribute the items.

The investigation began when FDA's **Brooklyn District** office received complaints from two consumers about mail-order health ads for products called SEA-10 and DMG/DMG-15. Both consumers questioned the validity of the claims being made about the drugs by the advertiser, Package Fulfillment Inc., Ronkonkoma, N.Y.

The district then contacted FDA's **Hicksville Resident Post** and requested that an investigator be sent to the firm to collect samples of both products, their labels and promotional literature. The promotional pieces made health claims that indicated both were drugs. In addition, FDA analysis of the products found that SEA-10 was actually an extract of the green-lipped mussel and that DMG/DMG-15 was similar to Aangamik, both quack remedies that have been promoted off and on over the years.

Since neither product had been approved by FDA, the district recommended seizure. Subsequently, a U.S. marshal seized approximately $46,000 worth of SEA-10 and DMG/DMG-15 stocks stored at Package Fulfillment Inc.

**Like a Wet Noodle**

Noodles. Fresh. wet noodles. They were sold in hermetically sealed packets that supposedly could be stored on the shelf until needed for soup or an Oriental-style dinner. They should have been handled like low-acid canned foods and thermally processed to kill any dangerous *Clostridium botulinum* spores that might be present. Unfortunately, they weren't.

Canadian health authorities were concerned that a U.S. firm wanted to export fresh Oriental-style noodles—called "udon"—into Canada through Seattle, Wash. They had already dealt with similar types of inadequately processed noodles from the Orient. The Canadians called FDA's **Seattle District** office, which in turn notified the **Los Angeles District**, where the noodle manufacturer was located.

Sakura Noodle Inc., of Los Angeles, was a relatively new firm and—at that time—the only known U.S. manufacturer of udon. An FDA investigator inspected the firm and collected samples for the district laboratory. Analysis showed that the products met the definition of low-acid canned foods and thus were subject to the agency's regulations for processing such foods.

When these facts were brought to the attention of the firm and its primary distributor, Sisco Food Co., Gardena, Calif., they agreed to close the manufacturing operations and cease distribution of the noodles until the processing problem could be solved. Further, they initiated a recall of some 23,000 cases of udon currently in the marketplace and valued at approximately $230,000.

The firm reopened after revamping its processing technique. The noodles now are acidified, taste much the same as before, and can be stored safely at room temperature.

FDA is continuing to monitor similar wet noodle products imported into this country from the Orient to assure that they, too, meet the requirements of the low-acid canned food regulations. Thus far, two voluntary destructions of imported wet noodle products have taken place in the Los Angeles District.

—This small sample of reports from the field was compiled and written by Annabel Hecht, Louise Fenner, Michael Herndon and Richard Thompson.
FILED SEIZURE ACTIONS charge violations of the Federal Food, Drug, and Cosmetic Act and are initiated based upon FDA recommendations. A seizure action is commenced by the filing in the U.S. district court where the goods are located. A U.S. marshal is then directed by the court to take possession of the goods, removing the product from commerce, until the matter is resolved.

A total of 16 actions to remove from the consumer market products charged to be violative was reported in September and October. These actions included 12 of foods: 5 involved charges concerning poisonous and deleterious substances, 5 involved charges concerning contamination, spoilage or insanitary handling, and 2 involved economic and labeling violations. Others included 3 of drugs (including 1 of veterinary) and 1 of medical devices.

<table>
<thead>
<tr>
<th>PRODUCT, DISTRICT &amp; DATE FILED</th>
<th>FIRM &amp; PLACE OF BUSINESS</th>
<th>CHARGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swordfish, frozen/U.S. District Court for the Western District of New York 10/6/82</td>
<td>Triple M Seafood and Equipment Distributors Inc./Pompano Beach, Fla.</td>
<td>Product contains the added poisonous and deleterious substance mercury.</td>
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<tr>
<td>Lima beans, dried/U.S. District Court for the District of Kansas 8/24/82</td>
<td>Kansas City Terminal Warehouse Co./Kansas City, Mo.</td>
<td>Product contains insect filth.</td>
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<tr>
<td>Peanuts, fancy, and other warehouse stocks/U.S. District Court for the Eastern District of Virginia 6/7/82</td>
<td>Nansemond Cold Storage Co./Suffolk, Va.</td>
<td>Products have been held under insanitary conditions.</td>
</tr>
</tbody>
</table>
FOOD/Contamination, Spoilage, Insanitary Handling

Rice/U.S. District Court for the District of Puerto Rico 9/1/82
Salmon, dressed, frozen/U.S. District Court for the Western District of Washington 8/12/82

Mr. Special Supermarkets Inc./Mayaguez, Puerto Rico
Shipped from Dillingham, Alaska.

Product contains insect filth and has been held under insanitary conditions.
Product contains decomposed salmon.

FOOD/Economic and Labeling Violations

Apple juice/U.S. District Court for the Southern District of New York 10/7/82

“Butter”/U.S. District Court for the Eastern District of Michigan 9/21/82

Derry Products Inc./Middletown, N.Y.
Borden Co./Columbus, Ohio

Product labeling, “Pure Apple Juice” and “Apple Concentrate,” is false and misleading for products which did not consist wholly of apple juice; also, a valuable constituent, namely apple juice, has been in part omitted.
Product is labeled “butter” but contains less than 80 percent by weight of milk fat, which has been substituted for butter.

DRUGS/Human Use

Starch-blocker tablets/U.S. District Court for the Eastern District of Michigan 9/29/82
Starch-blocker tablets/U.S. District Court for the Southern District of Illinois 9/24/82

Sunrise Chemical Inc./Deer Park, N.Y.

Product is a new drug without an effective approved New Drug Application.
Product is a new drug without an effective approved New Drug Application.

DRUGS/Veterinary

Components of a veterinary drug product/U.S. District Court for the Northern District of New York 8/30/82

Carter-Luff Chemical Co./Gloversville, N.Y.

Product is a new animal drug, and no approval of a New Animal Drug Application is in effect with respect to its intended uses. The circumstances used for the drug’s manufacture, processing, packing and holding fail to conform with current Good Manufacturing Practice.

MEDICAL DEVICES

Blankets for use on burn victims, in cannisters/U.S. District Court for the Western District of Louisiana 9/2/82

Shipped from Woonsocket, R.I.

The purity and quality of the product falls below its purported purity and quality level due to defective, leaking containers; also, the label falsely and misleadingly claims that the blanket is aseptically packed and sterile.
NOTICES OF JUDGMENT on Seizure Actions

FOOD/Contamination, Spoilage, Insanitary Handling

Charged 11–5–79: while held for sale, the article contained filthy substances (e.g., wood splinters, feathers, string and insects), and the article had been held under insanitary conditions; 402(a)(3), 402(a)(4). The article was claimed by Maritime Terminals Inc., Norfolk, Va., who denied the charges. The government served written interrogatories and requests for admissions on the claimant. The action was consolidated for trial with a similar action. (See N.J. No. 2 of this issue of FDA Consumer.)

Subsequently, FDA revised its policy concerning cocoa bean sweeps and, pursuant to stipulation of the parties, the action was dismissed without prejudice, upon condition that the claimant export the seized article pursuant to such revised policy. (F.D.C. No. 62660; S. No. 79–206–430; N.J. No. 1)

Charged 3–18–80: while held for sale, the article contained filthy substances (e.g., wood splinters, feathers, string and nails), and the article had been held under insanitary conditions; 402(a)(3), 402(a)(4).

The article was claimed by Maritime Terminals Inc., Norfolk, Va. The claimant denied the charges, denied that the article was “in commerce” or had been shipped “in interstate commerce” so as to give jurisdiction, and admitted only that the article could be found within the jurisdiction of the court at Norfolk. FDA subsequently revised its policy towards cocoa bean “sweeps.” Pursuant to the revised policy, certain cocoa bean sweeps could be exported. Accordingly, pursuant to stipulation of the parties, the article was released to the claimant and the action was dismissed without prejudice, upon the condition that the claimant export the article pursuant to the revised policy. (F.D.C. No. 62848; S. No. 80–206–435; N.J. No. 2)

Coconut, desiccated, poppy seeds, rye meal, and other food stocks, at hamtramck, E. Dist. Mich.
Charged 5–18–78: while held by Philip Olen der & Co., Hamtramck, Mich., the specified articles contained rodent or insect filth, and all of the articles had been held under insanitary conditions; 402(a)(3), 402(a)(4). Consent decree authorized release to the dealer for salvaging. Subsequently, except for the need for further protection from the creation of means of ingress through broken windows, the claimant completed the process of bringing the articles into compliance within the 30-day period provided by the decree. The claimant had contracted for barriers over certain windows but such contract could not be completed within the specified 30-day period. Accordingly, upon motion of the parties, the consent decree was amended to extend the period for compliance and to specify that compliance was to be completed by the installation of window barriers on the east wall and southeast corner of the warehouse and that, during such process, the claimant would daily inspect for holes through broken windows and would install and maintain barriers over any broken windows. (F.D.C. No. 61780; S. No. 78–199–335; N.J. No. 3)

Fruit cocktail, canned, at Jacksonville, E. Dist. Ark.
Charged 6–29–82: while held for sale, the article was held in swollen cans; 402(a)(3). Default decree authorized donation to a non-profit institution for use solely as animal food. (F.D.C. No. 63737; S. No. 82–341–470; N.J. No. 4)

Grapefruit juice, unsweetened, canned, at Fairfield, N. Dist. Ala.
Charged 2–12–81: while held for sale, the article was contained in leaking and rusty cans; 402(a)(3). Default decree ordered destruction. (F.D.C. No. 63656; S. No. 82–163–482; N.J. No. 5)

Macaroni products, sugar, flour, and other food stocks, at Troy, N. Dist. N.Y.
Charged 6–2–81: while held by R. Pusateri Inc., Troy, N.Y., the articles had been held under insanitary conditions and some of the articles contained rodent filth; 402(a)(3), 402(a)(4). Consent decree authorized release to the dealer for salvaging. (F.D.C. No. 63722; S. No. 82–252–340 et al.; N.J. No. 6)

Pollock sticks, frozen, and other frozen food stocks, at Cambridge, Dist. Md.
Charged 5–22–79: while held for sale, after shipment from Harrison, Del., the article had been held under insanitary conditions due to a warehouse fire; 402(a)(4).

The article was claimed by Landsman Packing Co., Red Hook, N.Y. Pursuant to stipulation of the parties, the action was transferred, for consolidation for trial with similar actions, to the District of Delaware where a consent decree of condemnation authorized release of the article to the claimant for salvaging. (F.D.C. No. 62275; S. No. 79–156–545; N.J. No. 7)

Scallops, frozen, at Beaufort, E. Dist. N.C.
Charged 5–7–82: when shipped by Alpha Fishing Co., Cape Canaveral, Fla., the article contained nematodes (a type of parasitic worm); 402(a)(3). Default decree ordered destruction. (F.D.C. No. 63716; S. No. 82–289–351; N.J. No. 8)

FOOD/Economic and Labeling Violation

“Honey,” at Oklahoma City, W. Dist. Okla.
Charged 2–20–81: while held for sale, after interstate shipment of the article’s corn syrup component, the article had had corn syrup substituted for honey (approximately 80 percent corn syrup)—402(b)(2); the labeling of the article was false and misleading in representing the article as pure honey and as consisting wholly of honey—402(a)(1); and the article was also in violation of the Fair Packaging and Labeling Act, since the quantity of contents statement was not expressed as required by regulations—15 U.S.C. 1453(a)(3)(A)(i).

The article was claimed by J.G. Samples, Oklahoma City, Okla. A consent decree of condemnation authorized release to the claimant for bringing into compliance. The claimant posted the required bond and proposed to FDA that the article be relabeled “Wildflower Nectar”[sic]. FDA rejected such proposal, and the claimant proposed that the article be relabeled “Nutritive Sweetener, Ingredients: Corn Syrup, Honey.” When the claimant was unable to provide a sworn statement from his supplier giving complete formula information concerning the identity and quantity of all ingredients present, the latter relabeling was also rejected, although the parties agreed that the article was fit for human consumption. The claimant moved the court to approve his relabeling proposal.
After a hearing by the court, the court sustained the government, saying:

"A decree was previously entered herein, by consent of the parties, condemning the libeled article of food for reasons of adulteration and misbranding. In the decree, the Court permitted the Claimant to take custody of the condemned article, subject to certain conditions, 'for the purpose of attempting to bring said article into compliance with the Federal Food, Drug, and Cosmetic Act' under the supervision of the Food and Drug Administration ('FDA') of the Department of Health and Human Services. This disposition of the condemned article was made pursuant to 21 U.S.C. § 334(d)(1), which provides the Court with authority to direct that the article be delivered to the owner to be destroyed or brought into compliance 'under the supervision of an officer or employee duly designated by the Secretary of the Department of Health and Human Services.' The Court of Appeals for the Tenth Circuit has said: 'The trial court has a wide discretion in determining whether an article condemned under § 352 may be delivered to an intervening claimant under § 334(d) to be brought within compliance with the Drug Laws under the supervision of the Secretary or his delegate. [citations omitted] But, the question whether an article condemned for its false and misleading labeling has been brought within compliance of the Act is a different matter altogether. As to that, the supervisory powers committed to the Secretary undoubtedly carry broad authority to determine whether and in what manner the labeling may be brought within compliance with the Act. The judicial function is concerned with the end product of the labeling process. While the final decision lies with the courts, great weight must be given to the administrative decision.' United States v. Allan Drug Co., 357 F.2d 713, at 719 (Tenth Cir. 1966). Hence, if the Court exercises its discretion to permit an intervening claimant to attempt to bring the condemned article into compliance with the Act, it must be done under administrative supervision, and the initial determination of the legality of the new labeling is for the administrative body. United States v. An Article of Device . . . Diapulse, 650 F.2d 908 (Seventh Cir. 1981).

"As to the form of the review, while the Court must give great weight to the administrative decision, the determination of whether the Claimant has satisfied the conditions of the Court's decree rests finally with the Court, and the Court should consider evidence offered by the parties even though it may go beyond the administrative record. See Buticaps, Inc. v. United States, 252 F.2d 634 (D.C. Cir. 1958), in which the Court, without mentioning any post-decree administrative determination as to the proposed relabeling, held that where the decree of the Court gave the claimant an opportunity to bring the label into compliance, it was error and a denial of due process to deny a motion of the claimant to approve the use of the name 'Buticaps' without an evidentiary hearing to determine whether the name was misleading. However, such evidence should not substantially change the nature of the proposed relabeling, lest the Court permit the Claimant to short circuit or avoid the FDA supervision required by statute. In the instant case, the parties have filed a Stipulation as to all material facts not apparent from the record, and the Court finds that the Stipulation does not change the nature of the proposed relabeling. As the parties were given an opportunity at the hearing on the instant Motion to present evidence beyond the administrative record and the Stipulation and declined so to do, the Court may decide the Motion on the basis of the record and the Stipulation.

"The test the Court must apply in reviewing the relabeling decision of the FDA is whether the FDA's rejection of the relabeling proposal was arbitrary and capricious or an abuse of discretion. United States v. 1,638 Cases of Adulterated Alcoholic Beverage, 624 F.2d 900 (Ninth Cir. 1980); United States v. Various Cases of Adulterated Alcoholic Beverages, 421 F. Supp. 1 (D. Alaska 1976). Drawing on Federal Trade Commission cases, the Court of Appeals for this Circuit, in United States v. Allan Drug Corp., supra, similarly defined the test as whether the administrative decision 'is warranted in the record and supported in law,' 357 F.2d at 718-719.

"Whether the proposed label would 'misbrand' the article depends on the meaning of the relevant regulation. The Act authorizes the promulgation of 'standards of identity' for food, and such 'standards of identity' are required to designate the optional ingredients, if such are permitted, which shall be named on the label. 21 U.S.C. § 341 provides, in pertinent part: 'Whenever in the judgment of the Secretary such action will promote honesty and fair dealing in the interest of consumers, he shall promulgate regulations fixing and establishing for any food, under its common or usual name so far as practicable, a reasonable definition and standard of identity, a reasonable standard of quality, and/or reasonable standards of fill of container: . . . In prescribing a definition and standard of identity for any food or class of food in which optional ingredients are permitted, the Secretary shall, for the purpose of promoting honesty and fair dealing in the interest of consumers, designate the optional ingredients which shall be named on the label.' The condemned article of food herein was originally labeled 'Pure Raw Honey' but, the parties agree, actually falls within the definition of 'Table Sirup' as defined by the standard of identity which has been promulgated for that product, 21 C.F.R. § 168.180. This regulation, as required by the statute, specifies that the optional ingredients that may be used in the standardized food called 'table sirup' include, inter alia, emulsifiers, stabilizers, flavorings, color additives, chemical preservatives, and agents of various kinds. As to labeling, Section 168.180 states: '(d)(1) Each of the optional ingredients used shall be declared on the label as required by the applicable sections of Part 101 of this chapter.' Part 101, § 101.4(a), requires a label to list ingredients 'by common or usual name in descending order of predominance by weight.' As the condemned article of food is one for which a standard of identity has been prescribed, it is subject to 21 U.S.C. § 343(g), which provides: 'A food shall be deemed to be misbranded * * * (g) If it purports to be or is represented as a food for which a definition and standard of identity has been prescribed by regulations as provided by section 341 of this title, unless (1) it conforms to such definition and standard, and (2) its label bears the name of the food specified in the definition and standard, and, insofar as may be required by such regulations, the common names of optional ingredients (other than spices, flavoring, and coloring) present in such food.'

"It is obvious that any of the proposed labels could cause the condemned article of food to be misbranded. When it was seized, the article of food was labeled 'Pure Raw Honey.' Subsequent analysis provided by the Claimant and included in the record shows that the article is approximately 80 percent corn syrup and 20 percent honey. Hence, the parties agree that the 'Table Sirup' standard of identity is the appropriate standard. Further, the Government admits
that it has no reason to question the accuracy of the 80–20 analysis. However, the parties have stipulated that this analysis does not preclude the existence of added flavors, colors, stabilizers, preservatives, and similar ingredients and that no laboratory analysis is capable of providing a complete compositional breakdown. Thus, while the parties stipulate that the condemned food is fit for human consumption, they also agree that they do not know whether the condemned article contains any of the above optional ingredients. As a result, the FDA has taken the position that the only formulory information which it would accept would be a sworn statement from the Claimant’s supplier giving the complete formula. The Claimant has been unable to provide this sworn statement.

“The Court concludes that the burden is on the Claimant who proposed the label. The regulation requires that the optional ingredients used be ‘declared on the label.’ 21 C.F.R. § 168.180(d)(1). Clearly, the person who is to ‘declare the ingredients is the person who proposes to put the article of food in the stream of commerce, not the Government. There is nothing about this which conflicts with the requirements that food not be ‘misbranded’; 21 U.S.C. § 343(g). Clearly, such ‘misbranding’ is done by the proponent of the label and the article, not the Government. Moreover, if the burdens were otherwise, the FDA would have the insurmountable task of conducting an indefinite number of scientific analyses on any questioned article. By contrast, it is a simple matter for the maker of the article to place a complete and honest label thereon. Placing the burden on the proponent of the article and the label promotes the purposes of the Act to protect the consuming public and to encourage reliance upon the uniform quality of standardized commodities. United States v. 30 Cases, etc., 93 F.Supp. 764 (S.D. Iowa 1950).

“Further, a primary purpose of promulgating standards of identity is to protect the consumer from ‘economic adulteration,’ by which less expensive ingredients are substituted for more expensive ingredients. Federal Security Administration v. Quaker Oats Co., 318 U.S. 218, at 230, 87 L.Ed. 724, 63 S.Ct. 589, 158 A.L.R. 832 (1943). Similarly, if the condemned article contains chemical preservatives and other optional ingredients in even minute amounts, such fact, in view of the increasing concern about chemical additives and preservatives in food, may reduce the value of the article in the eyes of the informed consumer. But the consumer today can reasonably get the information necessary to his making informed choices only from the product labels required by the Act.

“The Court concludes that the FDA did not act arbitrarily and capriciously or abuse its discretion in refusing to approve the proposed label, as it appears the article may contain ingredients which must be named (such as stabilizers and preservatives) else the same is misbranded and such ingredients are not named in the proposed label under consideration. Further, the Court considers meritless the Claimant’s contention that the Plaintiff should not be allowed to go beyond the allegations in the Complaint and the resulting suggestion that complete compliance with the Act is not required, after the entry of the decree upon certain grounds.”

Ultimately, the article was constructively destroyed by donating it to charitable institutions for distribution to needy persons and not for resale. (F.D.C. No. 63330; S. No. 81–265–441; N.J. No. 9)

**ANIMAL FOOD**

**Beef with charcoal**, Pine Tree, and unlabeled bulk frozen blocks of raw beef, at Libertyville, N. Dist. Ill.

Charged 7–15–81; while held by Fine Tree Dog Food Co. Inc., Libertyville, Ill., the articles, labeled in part "Pine Tree Dog Food Beef 01% Charcoal Added . . . Packed by Pine Tree Dog Food Co. Inc., Libertyville, Ill. . . ." or "Pine Tree Dog Food Co., Inc., Libertyville, Ill., . . . Beef . . . with .01% Charcoal . . . For Dogs and Cats," consisted of raw red meat from diseased animals or animals which had died other than by slaughter; 402(a)(5). Consent decree authorized release to the dealer for bringing into compliance (by rendering). (F.D.C. No. 63499; S. No. 81–243–430; N.J. No. 10)

**DRUGS/Human Use**

**Acetaminophen elixir**, at Gardena, C. Dist. Calif.

Charged 11–18–80; while held by Whiteworth Inc., Gardena, Calif., who had manufactured the article using interstate acetaminophen, the article had been manufactured, processed, packed and held under circumstances that failed to conform with current good manufacturing practice; 501(a)(2)(B). The article was claimed by the manufacturer, who denied the charge and asserted that FDA regulations for current good manufacturing were merely interpretive guides and did not have the force or effect of law. The government served written interrogatories and requests for admissions. Upon motion of the parties, the action was consolidated for trial with three similar actions. Ultimately, a consent decree authorized release of the article to the manufacturer for salvaging. (F.D.C. No. 63224; S. No. 80–244–472; N.J. No. 11)

**Aspirin tablets**, at Gardena, C. Dist. Calif.

Charged 11–18–80; while held by Whiteworth Inc., Gardena, Calif., who had repackaged the article using interstate bulk aspirin tablets, the circumstances used for the processing, packing and holding of the article failed to conform with current good manufacturing practice; 501(a)(2)(B). The article was claimed by the packer, who denied the charge. Upon motion of the parties, the action was consolidated for trial with three similar actions. Ultimately, a consent decree authorized release of the article to the packer for salvaging. (F.D.C. No. 63223; S. No. 80–244–467; N.J. No. 12)

**Chlorothiazide tablets**, at Miami, S. Dist. Fla.

Charged 6–5–80; when shipped by Camall Co., Detroit, Mich., the article was a new drug without an effective approved New Drug Application; 505(a). Default decree ordered destruction. (F.D.C. No. 62904; S. No. 80–193–756; N.J. No. 13)

**Counterfeit biphentamine capsules**, other counterfeit capsules and tablets, and equipment used to manufacture and identify such counterfeit drugs, at Elgin, N. Dist. Ill.

Charged 9–30–81: the articles of drug, which were held by Standard Pharmacal Corp., Elgin, Ill., were counterfeit drugs bearing, without authorization, the identifying mark, imprint or likeness of a
drug manufacturer, processor, packer or distributor other than the actual drug manufacturer, processor, packer or distributor; and the articles of equipment were things used or designed for use in making counterfeit drugs; 201(g)(2).

The articles were claimed by Standard Pharmacal Corp., Elgin, Ill., who denied the charges. Subsequently, the claimant, its president, John W. Oliis, its vice president, Deepak Y. Naik, and its quality assurance director and vice president, Stanley R. Mitchell, without admitting any trademark or patent violation, consented to a decree of permanent injunction and condemnation. That decree authorized release to the claimant of specified pieces of manufacturing equipment; ordered the destruction of the seized drugs; permanently enjoined the claimant and its officers and agent from the violations complained of; and provided for additional conditions concerning specific periodic reports of all over-the-counter drugs, specified maintenance of current good manufacturing records and equipment used for each lot of drugs produced, and specified notice to the claimant’s distributors and consignees. (F.D.C. No. 63545; S. No. 81–249–144; N.J. No. 14)

Furosemide tablets, chlorthalidone tablets, hydroxyzine HCl tablets, prochlorperazine capsules, hydroxyzine pamoate capsules, and diethylpropion HCl tablets, at Auburn Heights, E. Dist. Mich. Charged 3–3–81: when shipped by Pharmadyne Laboratories Inc., Elmwood Park, N.J., the articles were new drugs without effective approved New Drug Applications; 505(a). The articles were claimed by the shipper who denied the charge. The action was consolidated for trial with a similar local action and subsequently removed for trial in the District of New Jersey. Ultimately, a consent decree of condemnation ordered the articles destroyed. (F.D.C. No. 62794; S. No. 80–208–558; N.J. No. 15)

Methylprednisolone acetate (80 mg per ml) suspension, at Inwood, E. Dist. N.Y. Charged 9–29–80: while held by Bel–Mar Laboratories Inc., Inwood, N.Y., who manufactured the article using imported methylprednisolone acetate, the article was a new drug without an effective approved New Drug Application—505(a); and the article’s labeling failed to bear adequate directions for use and was not exempted due to its new drug status—502(f)(1). Default decree ordered destruction. (F.D.C. No. 63197; S. No. 80–220–687; N.J. No. 16)

Podiodine surgical scrub, Podiodine solution, in-process solution, Methylprednisolone acetate (80 mg per ml) suspension, at Inwood, E. Dist. Mich. Charged 7–17–79 and supplemented on or about 5–21–80: while held by Larson Laboratories Inc., Erie, Pa., who was manufacturing the finished product using interstate components, the circumstances used for the articles’ manufacturing, processing and packing failed to conform with current good manufacturing practice—501(a)(2)(B).

The articles were claimed by the manufacturer. The parties served written interrogatories on each other. Subsequently, the claimant’s finished and in-process products were found to have a one-year expiration date which had passed. The parties discussed the passage of the drugs’ expiration date and the claimant had no objection to the filing of a supplemental complaint charging that such products differed from and their quality and purity fell below official compendium standards as a result of the passage of their expiration date—501(b).

A consent decree authorized release of the product components for bringing into compliance. Another consent decree of condemnation authorized release of the finished and in-process products to the claimant for bringing the articles into compliance by reconstituting or recharacterizing such products into a nondrug product. The decree also included injunctive provisions restraining the claimant and its president from manufacturing, processing, packing and labeling any podiodine iodine product unless and until a number of specified conditions had been achieved so as to comply with current good manufacturing practice. The consent decree that authorized disposing of the finished and in-process drugs was subsequently amended to authorize that such products be reworked and brought into compliance, with new lot numbers properly marked and identified according to current good manufacturing practice, and with the drug product having a 12-month expiration date. (F.D.C. No. 62338; S. No. 79–114–010; N.J. No. 17)

Potassium chloride solution, at Gardena, C. Dist. Calif. Charged 11–18–80: while held by Whitworth Inc., Gardena, Calif., who manufactured the article using interstate potassium chloride, the article had been manufactured, processed, packed and held under circumstances that failed to conform with current good manufacturing practice; 501(a)(2)(B). The article was claimed by the manufacturer who denied the charge. Upon motion of the parties, the action was consolidated for trial with three similar actions. Ultimately, a consent decree authorized release of the article to the manufacturer for salvaging. (F.D.C. No. 63226; S. No. 80–244–474; N.J. No. 18)

Promethazine expectorant solution, pediatric, with dextromethorphan, at Gardena, C. Dist. Calif. Charged 11–18–80: while held by Whitworth Inc., Gardena, Calif., who manufactured the article using interstate promethazine hydrochloride, the article had been manufactured, processed, packed and held under circumstances that failed to conform with current good manufacturing practice; 501(a)(2)(B). The article was claimed by the manufacturer who denied the charge and asserted that the FDA regulations for current good manufacturing practices were merely interpretive guides and did not have the force or effect of law. Upon motion of the parties, the action was consolidated for trial with three similar actions. Ultimately, a consent decree ordered destruction. (F.D.C. No. 63225; S. No. 80–244–473; N.J. No. 19)

Trimethoprim with sulfamethoxazole tablets, chlorthalidone tablets, allopurinol tablets, and diethylpropion HCl tablets, at Ferndale, E. Dist. Mich. Charged 2–15–80: when shipped by Pharmadyne Laboratories Inc., Elmwood Park, N.J., the articles were new drugs without effective approved New Drug Applications; 505(a). The shipper intervened and claimed the articles. Pursuant to stipulation, the action was consolidated for trial in the District of New Jersey. Ultimately, a consent decree of condemnation ordered the articles destroyed. (F.D.C. No. 62824; S. No. 80–208–573; N.J. No. 20)

DRUG/Veterinary

Methenamine tablets, Trailize, at Omaha, Dist. Neb. Charged 6–25–82: while held by Lee Drug Co., Omaha, Neb., who was the distributor of the article, which was labeled in part
MEDICAL DEVICES

Muscle stimulator device, electric, with compressible limb-sleeve device, at Santa Ana, C. Dist. Calif. Charged 10–5–79 and amended 10–29–79: the article, which had been manufactured by Western States Supply Ltd., Pueblo, Colo., was dangerous to health when used as directed because the article had not been provided, and the device had not been exempted as a prescription legend veterinary drug—502(f)(1). Default decree ordered destruction. (F.D.C. No. 63732; S. No. 82–165–634; N.J. No. 21)

X-ray control panel and collimator, Traceray III, at Sonora, E. Dist. Calif. Charged on or about 6–3–81: the accompanying labeling of the article, which had been imported from Europe, and which used the names Slen dredtone or Slim–Tone, contained false and misleading claims for tightening flabby areas, reducing inches, restoring elasticity and firmness, controlling cellulite, restoring a youthful appearance, bringing back waist and body definition, tightening sagging buttocks, controlling body shape, losing inches and shedding lumps and bulges—502(a); the labeling of the articles lacked adequate directions for use, since such directions could not be written because the devices were ineffective for their intended use and because the devices were potentially harmful and did not qualify for an exemption—502(f)(1); and the required information for the compressible limb–sleeve device had not been provided, and the device had not been listed as required—502(o). Default decree ordered destruction. (F.D.C. No. 63301; S. No. 81–200–009; N.J. No. 22)

X-ray system, Traceray III, at Santa Ana, C. Dist. Calif. Charged 10–5–79 and amended 10–29–79: the article, which had been manufactured by Western States Supply Ltd., Pueblo, Colo., was dangerous to health when used as directed because the device would emit radiation beyond the preset exposure time—502(j); and the article’s quality fell below its purported quality—501(c). Consent decree authorized release to the possessor for reconditioning. (F.D.C. No. 62588; S. No. 79–215–321; N.J. No. 25)

NOTICES OF JUDGMENT on Injunction Actions

Best Pie Co., and James D. Strathdee, president, Seattle, W. Dist. Wash. Charged 5–19–78 in a complaint for injunction: that the defendants, at their Seattle, Wash., bakery, held for sale various interstate bakery food components (e.g., flour, dough mix, doughnut mix and starch) and prepared, packed, and distributed in interstate commerce various bakery products (e.g., pies, cakes and doughnuts); that various lots of doughnut mix, flour, and dough mix contained rodent filth; that the defendants’ food products had been prepared, packed and held under insanitary conditions; that FDA’s inspections disclosed a number of specified insanitary conditions in the defendants’ bakery; and that the defendants had been repeatedly warned of the insanitary conditions and practices in their bakery; 402(a)(3), 402(a)(4).

A consent decree of permanent injunction enjoined the complained of violations and enjoined the continued preparing, packing, holding and distributing of interstate foods unless and until a number of specified methods, facilities and controls to assure that food was not contaminated were effected; unless and until an expert certified to FDA that such specified conditions had been effected; and unless and until all of the foods on hand were examined for filth, necessary analyses made, and all contaminated foods destroyed or otherwise brought into compliance with the law. (Inj. No. 856; S. No. 78–148–616; N.J. No. 26)

C & T Healthcare Systems Corp., John E. Tullis, president, and Thomas W. Chamberlain Sr., vice president and secretary, Owings Mills, Dist. Md. Charged 12–12–78 in a complaint for injunction: that the defendants, at their Owings Mills, Md., plant, repacked, labeled, held and distributed in interstate commerce various drugs whose components had been shipped in interstate commerce; that the circumstances used for the processing, packing and holding of such drugs failed to conform with current good manufacturing practice; that the label of one drug (butisol sodium, a chemical derivative of barbituric acid, which was habit forming and had been so designated) failed to bear the name and quantity of such derivative and, in juxtaposition therewith, the habit-forming warning—502(d); the labeling of some prescription-type drugs (e.g., papaverine HCl, Nitro-Bid, Cyclandelate, Luride and Utibid) failed to bear either adequate directions for lay use or adequate information for use by licensed practitioners—502(f)(1); the labeling of some nonprescription drugs (e.g., Ecotrin, dicytol sodium sulfo succinate and Mylicon) lacked adequate directions for lay use—502(f)(1); the labeling of Ecotrin (enteric–coated aspirin tablets for oral use) failed to bear adequate warnings against use by children where its use may be dangerous to health and lacked a declaration that the drug was enteric-coated—502(f)(1), 502(f)(2); that Ecotrin, dicytol sodium sulfo succinate, Mylicon, butisol sodium, Navane and
hydrochlorothiazide were purported to be drugs recognized in an official compendium and their labels failed to bear the required expiration dates—502(g); that the antibiotic drug Geocillin contained a kind of penicillin and the antibiotic batch certificate was no longer in effect—502(i); that their drugs were not included in the list required to be filed by them with FDA—502(o); that the labels of papaverine hydrochloride and Geocillin (which are prescription legend drugs) failed to bear the prescription legend—503(b)(4); that FDA inspections disclosed a number of specified deviations from current good manufacturing practice—501(a)(2)(B); and that the defendants were well aware that their activities were in violation of the law.

The court issued a temporary restraining order enjoining the complained of violations. Subsequently, a consent decree of permanent injunction permanently enjoined the complained of violations and enjoined specified operations concerning interstate drugs repackaged and relabeled at the defendants' plant unless and until: specified methods, facilities and controls were established, operated and administered in conformity with current good manufacturing practice; a qualified expert examined the defendants' plant and certified the defendants compliance to FDA; and finished drugs distributed by the defendants and needing recall were recalled and destroyed or otherwise brought into compliance. (Inj. No. 867; S. No. 78–168–674; N.J. No. 27)

Charged 4–17–80 in a complaint for injunction: that the defendants repacked, distributed and warehoused various interstate foods, including foods sold primarily to the baking industry (e.g., calcium propionate, sesame seeds, cake donut mix, pie shells, desiccated coconut and poppy seeds); that certain of such foods contained insect and/or rodent filth; that all of such foods were held under insanitary conditions; that FDA's inspections revealed a number of specified insanitary conditions; that FDA laboratory analysis revealed the presence of rodent filth in desiccated coconut and poppy seeds; and that the defendants had been repeatedly warned of the insanitary conditions in their warehouse; 402(a)(3), 402(a)(4).

A consent decree of permanent injunction, within 15 days of its entry, imposed a continuing duty upon the defendants, at their warehouse and any other commercial establishments operated by them, against the alleged violations; ordered the operation and establishment of methods, facilities and controls for repacking and holding foods in their warehouse in conformity with practices which would assure that food was not contaminated with rodent or insect filth (which methods, facilities and controls included a number of specified practices); ordered inspection of their warehouse by a qualified expert and written certification to FDA that the required specified practices had been met; and ordered, if warranted, inspection of the food on hand and the destruction or bringing into compliance of any contaminated food.

Subsequently, the government petitioned for the enforcement of the decree, charging that two FDA inspections after the entry of the consent decree had revealed insanitary conditions constituting violations of the decree, and petitioning the court for an order directing that the defendants neither receive nor ship foods unless and until their warehouse was brought into compliance. The defendants opposed the government's motion, claiming that full elimination of violative activity had had to be a process accomplished over time, that FDA had acknowledged it would not pursue "de minimus" violations, that unique circumstances existed in their warehouse at the time of FDA's second post-decree inspection, and that they were presently in compliance.

A third post-decree inspection was conducted by FDA. The defendants' warehouse appeared to be in substantial compliance, and the government's motion was removed from the court calendar; but the court retained jurisdiction to enter such further orders as might be necessary. (Inj. No. 947; S. No. 78–199–337 et al.; N.J. No. 28)

NOTICE OF JUDGMENT on Miscellaneous Action

Drug efficacy review and its implementation, the reactivation of suit for declaratory judgment, injunction and mandamus, Washington, Dist. Columbia.
Charged 3–8–79 in a motion by American Public Health Association, et al., against HEW Secretary Joseph Califano and FDA Commissioner Dr. Donald Kennedy (which defendants had been substituted for original 1970 officials) to reactivate the plaintiffs' 1970 action (see Notice of Judgment No. 50, FDA Consumer, April 1975): that the government was in violation of the deadlines established by the court in its order of Oct. 11, 1972; and that plaintiffs intended, shortly, to seek relief to remedy such alleged violations. The plaintiffs also served written interrogatories on the government. The government responded that it did not object to the restoration of the action to the court's docket but that the government did not thereby agree with or concede to any of the representations made by the plaintiffs in their motion or supporting memorandum. After the government answered the plaintiffs' interrogatories, the plaintiffs served supplemental interrogatories on the government.

The parties agreed to resolve their outstanding dispute in an agreement submitted to the court which provided for completing action on the remaining efficacy evaluations, conducting administrative hearings, reporting to health professionals and to the court, and assigning and hiring agency personnel. Upon stipulation of the parties pursuant to that agreement, the action was dismissed, although the plaintiffs reserved the right to reopen the action in accordance with the terms of parties' agreement. (Misc. No. 145; N.J. No. 29)

Notices of Judgment are given pursuant to section 705 of the Federal Food, Drug, and Cosmetic Act. Notices of Judgment report cases involving seizure proceedings, criminal proceedings, and injunction proceedings. Seizure proceedings are civil actions taken against goods alleged to be in violation, and criminal and injunction proceedings are against firms or individuals charged to be responsible for violations. The cases generally involve foods, drugs, devices, or cosmetics which were alleged to be adulterated or misbranded or otherwise violative of the law when introduced into and while in interstate commerce, or while held for sale after shipment in interstate commerce.

Notices of Judgment are prepared by Food and Drug Division, Office of the General Counsel, HHS.
Published by direction of the Secretary of Health and Human Services.

Arthur Hull Hayes Jr., M.D., Commissioner of Food and Drugs Washington, D.C., Feb. 1, 1983
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