



Massachusetts Department of Public Health

Bureau of Environmental Health

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Food Protection Program Policies, Procedures and Guidelines

Issue: Food Salvage and Reconditioning Guidelines

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Guidelines for Evaluating Food Products for Salvage and Reconditioning

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INTRODUCTION

These guidelines should be used while conducting an inspection to evaluate food that has potentially been exposed to contamination for salvage and reconditioning. The guidelines address the basic information an inspector needs for inspecting potentially contaminated food, and the procedures to follow when a variety of violations and conditions are encountered. As with any type of inspection or investigation, proper written documentation is required.

It is vital to remember when conducting this type of inspection that:

Distressed merchandise must never enter the food market place until it has been fully reconditioned, inspected, and released by the health department under whose jurisdiction it resides.

Food products may become contaminated or distressed from a variety of events, including but not limited to:

- Fires
- Flooding
- Power outages
- Ammonia leaks
- Chemical spills
- Transportation accidents

In every food salvage operation the treatment of affected merchandise must be completed in an orderly, thorough, non-biased manner. Food may only be reconditioned at a facility licensed by the Massachusetts Department of Public Health, Food Protection Program. After reconditioning, food product must be:

- Safe and wholesome;
- Sound;
- Free from contamination;
- Labeled with all mandatory statements; and
- Inspected by local or state health department personnel before being released.

If there is any uncertainty about the quality or soundness of a product following reconditioning, before any product is released, samples must be obtained, the appropriate laboratory analyses performed, and satisfactory results obtained.

GENERAL PROCEDURES

Upon arrival at the site of the incident, the inspector must assess the nature and extent of the damage. This information will form the basis upon which future decisions regarding the feasibility of salvaging and/or reconditioning the product will be made.

Upon arrival the inspector should:

- Identify himself/herself to the senior company representatives and any other regulatory or law enforcement personnel present;
- Identify the nature and extent of the incident;
- Determine the extent of damage to the food products;

- Place an embargo on all potentially affected food products, if this has not already been done; and
- Inventory the type and quantity of foods, whenever possible.

An embargo placed on potentially contaminated product is valid for ten days. The inspector should determine whether or not the owner of the affected product would consent to extend the embargo until such time it is inspected to determine whether or not it is damaged and can be reconditioned. If the owner consents, this should be documented in the narrative accompanying the inspection. If the owner/agent does not consent to the extension, the inspector must follow the procedures for embargoed products as defined in M.G.L. c. 94, §§ 146, and 189A.

All questions concerning the salvage and reconditioning of alcoholic beverages must be addressed directly to the Massachusetts Alcohol Beverages Control Commission at 617-727-3040, or in writing to 100 Cambridge Street, Boston, MA 02202

INSPECTION OF FOOD FOR SALVAGE

The following are some of the more common situations encountered by an inspector where there is a substantial chance that food products have been contaminated. While the circumstances and potential contaminants may be different in each situation, the inspector's responsibility for determining, which, if any, foods are appropriate for salvage and reconditioning, remains the same.

Fire Damage

Before conducting an inspection of food products located in a facility damaged by fire, a determination should be made, as far as possible, of the following:

- Exact source, extent, and location of the fire in the facility;
- Amount of smoke and heat generated by the fire;
- Type of fire, i.e., electrical, chemical, building structure, paper or a combination of types;
- Release of any toxic gases;
- Did a power outage occur and if so, how long was power lost; and
- Proximity of all potentially affected food products to the source and spread of the fire.

After this information has been collected, an examination of the scene should be conducted to evaluate:

- Exposure of product to heat, physical damage (floating and falling debris) or smoke damage;
- Water damage from fire fighting activities;
- Pollution from the use of non-potable water in fire fighting effort; and
- Residues from toxic or fire fighting chemicals.

It is extremely important to remember that chemical contamination can occur not only as a direct result of the fire, but also as a result of secondary means. Examples include:

- Chemical containers rupturing from heat or impact during the fire;

- Cross-contamination introduced to the site;
- Gases released from burning building materials, electrical insulation, or cooling chemicals; and
- Large commercial transformers in the fire area that may leak or spread toxic chemicals.

Determining the extent of damage from smoke contamination is difficult. When trying to determine the extent of damage, it is important to consider the type of packaging in which the food is stored. Smoke smell and taste lingers on packages and may have been absorbed by foods that may otherwise appear satisfactory. Using a clean paper towel or tissue, wipe the package to detect traces of smoke/soot. To examine distressed foods organoleptically, remove them to an area where the smoke odor of the fire is not present. An inspector's sense of smell and taste may be the most valuable tools in determining smoke contamination in cooler display cases, etc. Smoke can be carried inside refrigeration units by the circulating fans on the units even though the doors may not have been opened during the fire. Food display cases, which may be loosely covered or poorly sealed, can easily be infiltrated by smoke. Individually wrapped candies, packaged nuts in the shell, etc. may be less susceptible to contamination, but items such as pasta, baked goods, unwrapped candies and nuts must be closely scrutinized. Whenever in doubt, collect samples for laboratory analysis.

Charred goods or food products, especially when found in water soaked containers, are rarely salvageable. An inspector must use common sense when considering the many factors involved in potential fire/smoke contamination.

Ammonia Leaks

Contamination from ammonia leaks involves the absorption of ammonia fumes into the product as a result of prolonged exposure to fumes, either by direct exposure or absorption through permeable packaging. If foods exposed to an ammonia leak are to be reconditioned, the following procedures must be followed during the salvaging and reconditioning:

- Product must be removed from the area of the ammonia leak as soon as possible;
- Packaged food within a bulk corrugated container must be removed as soon as possible, because ammonia is readily absorbed by corrugated cases; and
- Food products should be repackaged and moved to a segregated, empty storage area unaffected by the ammonia leak.

Some packaging materials are more permeable by ammonia than others. The more permeable the packaging, the less likely the product can be salvaged. The following barrier characteristics should be noted when deciding whether a food product exposed to ammonia should be salvaged or destroyed.

- Water glaze or ice on food will absorb ammonia, but the rinsing action of melting ice may eliminate the ammonia;
- Loose packed, individually quick-frozen (I.Q.F.) foods are more susceptible to contamination than block frozen foods;
- Kraft and other types of paper products are extremely permeable;

- Waxed paper over wrap and waxed cardboard are extremely permeable;
- Plastic films (polyethylene, saran, cryovac, etc.) are less permeable; and
- Brass, metal, and heavy aluminum foil or foil-lined packagings are often the best barriers.

Water Damage

Water damage caused by excessive rainfall, melting snow, hurricanes, high tides, broken dams, broken pipes, activated sprinkler systems, overflow from water mains, or flooding from fire fighting operations can be either localized or extensive. All water, regardless of its source, must be considered to be a pollutant because of the possibility of overflowing sewers, pit privies, and street run-off water.

When an inspector arrives at the scene of potential product contamination from water damage, the inspector should:

- Survey the extent of damage and ascertain the type of merchandise affected, e.g., food, drugs, cosmetics, etc.
- Check the walls of the storage areas and the tops and sides of the stacked products for water residue, debris, and the high-water mark. The high-water mark will usually be a well-defined dark line. Product stacked above the high-water line is often free of contamination unless other factors, such as vermin defilement or power outage in a refrigeration unit are present.
- Embargo all suspect products. Items such as breads, cakes, cookies, candies, bulk flour, sugar, bulk liquids, and similar items not packaged in jars or hermetically sealed containers probably will be contaminated and will need to be destroyed.
- Determine if a power outage occurred and its duration. If power was restored quickly and thawing or spoilage of refrigerated or frozen items was avoided and the product was not otherwise affected, its potential for reconditioning is high.
- While water may not have flooded the facility, the water levels may have caused sewer and waste lines to back-up into basements. Check for evidence of back up, such as debris, sewage particles on walls and on floors, or of sewer odors. Examine product for defilement by rodents, even if the water did not directly affect it. Rodent activity increases in flooded areas when vermin are driven from their harborages and seek other areas for food and shelter.

Generally, any product that is submerged beneath water is unsalvageable and must be destroyed, with the exception of product packaged in hermetically sealed containers. These products can be sanitized and relabeled without the content becoming contaminated. However, be aware that if these containers are not quickly removed from the water and dried, pinholes may develop, making the product unsalvageable.

Power Outages

The principal issues for an inspection after a power outage are time and temperature. How long was the power out, and what were the resultant temperatures? Food products under refrigeration must be kept at 45° F (7.2° C) or below and frozen foods at 0° F (-18° C) or below. If frozen products thaw, decomposition or loss of quality can occur. To determine whether temperature abuse has occurred, measure the internal temperature of the product.

Vehicle Accidents

Most product damage occurs as a result of the physical impact. However, product can also be compromised if a vehicle's refrigeration unit is damaged. As in a power outage, if product temperatures exceed 45° F (7.2° C), the product must be considered unsafe if out-of-temperature for an extended period. The internal temperature of the product should be monitored as often as possible while out of temperature control. Exposure to the weather may also adversely affect the product. Although illegal, toxic items traveling with the product may rupture and increase the possibility of contamination. Fuel spillage should also be a concern.

Salvage operations must be monitored until all salvageable products have been secured and segregated for shipment to a salvage processing facility. On-site monitoring of the salvage procedures by an inspector will discourage "scavengers" and expedite the salvage operation. While on site, the inspector should determine, as much as possible, which products should be destroyed and which may be salvageable.

Begin salvage operations as soon as possible. A delay in segregating good from bad product often increases the amount of loss. When on-site cleanup is complete, the inspector must record the amount of salvageable product and the amount of product contaminated or destroyed. Off-loading of salvageable product to another vehicle must be supervised, sealed, and retained under embargo. The replacement vehicle must remain sealed until the product arrives at the salvage processing facility. The inspector must record the following information on all reports:

- Seal and embargo number
- Trucking company name, address, contact person's name and telephone number
- Driver's name
- Origin of load
- Bill of lading information
- Destination
- Consignee
- Towing company name, address, contact person's name, and telephone number
- Destination of goods for salvage.

RECONDITIONING OPERATIONS

Food products affected by a disaster may be reconditioned into an acceptable condition. Acceptable reconditioning is dependent upon:

- The condition of the product;
- The type(s) of container in which the product is stored;

- The type(s) of product;
- The products intended use; and
- The kind and extent of contamination.

Local and/or state health department personnel must closely supervise reconditioning operations. Safeguards must be assured to account for the quality of the products prior to, during, and after the reconditioning operation. Control procedures must ensure that all unwholesome products is properly segregated and destroyed, and reconditioned product meets acceptable safety and quality standards. Products must remain under embargo at all times to ensure control. If possible, the inspector should supervise the entire reconditioning operation. If this is not possible, the reconditioner must contact the appropriate Health Department upon completion of the reconditioning operation in order to be granted an approval for the release of any good product and/or the destruction of the unacceptable product.

Perishable Products

Generally, the following types of products are not recommended for reconditioning:

- Milk products, because they are extremely perishable and highly susceptible to bacterial growth. Any attempts at salvaging and reconditioning such products are very risky. Careful laboratory testing must be conducted to determine the level of contamination.
- Fresh fruit and produce, which have been contaminated by nonpotable water, smoke, ammonia, or chemicals, cannot be adequately cleaned.

Under some limited circumstances, the reconditioning of perishable foods may be possible, such as:

- Products which have not been directly contaminated;
- Some frozen products which have partially thawed and can be refrozen without posing a public health hazard; and
- Products that have been maintained at temperatures appropriate to their individual product requirements.

Foods in Plastic, Paper, Cardboard, Cloth or Similar Containers

Foods packaged in these containers that have sustained water damage usually cannot be reconditioned. Foods packaged in these containers that have been exposed to minor fire and/or smoke damage may be reconditioned, if the labels are intact and contents have not been affected. Products intended for use by infants, the elderly, or infirm, as well as sterile or drug products, while possibly safe, should not be considered for reconditioning.

The general guidelines for approval of product for reconditioning which were packaged in plastic, paper, cardboard, cloth, or similar containers are:

- There is no evidence of product contamination.
- The external container is torn but the interior liner is intact. The external container can be repaired/replaced to eliminate possible contamination of the product.

- The soiled containers that are cleanable can be cleaned as long as the product has not been damaged or contaminated.
- When there has been water, chemical, or other liquid damage to the exterior package, without contamination to food contents, the food may be repackaged and relabeled.

General guidelines for products packaged in these types of containers, which are unsuitable for reconditioning, include:

- The product has been contaminated.
- Package integrity has been compromised and the product has been exposed to contamination.
- The package is fire damaged.
- The exterior packaging has been contaminated by solid, liquid, or gaseous elements and repackaging would expose the product to contamination.

Screw-top, Crimped cap, and Similar Closures

Food products in containers with screw caps, snap-lids, crimped caps, twist caps, flip tops, snap open, and similar-type closures should not be reconditioned if submerged in water or subjected to smoke contamination. Debris and contaminants in the water may be lodged under the cap lips, threads, lugs, crimps, and snap-rings, making them virtually impossible to detect and remove.

However, cans with flip tops can be sanitized with sanitizing solution. A careful examination should be made of the area under the plastic binder often used on these units. Smoke or other contaminants may collect under the plastic and are not easily visible unless a can is removed. It is recommended that exposed six-pack units be disassembled and wiped clean.

Use the following guidelines to determine if a product is **suitable** for reconditioning:

- The product is not contaminated.
- Soiled containers may be reconditioned if the soil can be removed and has not affected the closure mechanism or the contents.
- The closure mechanism is free of rust, and surface rust is removable by buffing.
- Indentations on the cap or crown are acceptable for reconditioning if the seal has not been damaged.
- All labels and tax stamps are in place.

Use the following guidelines to declare product **unsuitable** for reconditioning:

- The product is contaminated.
- There is evidence that the container has been exposed to extreme pressure or temperature.
- There is soil around the closure mechanism.
- Rust is present around the closure mechanism.
- The container or closure mechanism is defective.
- The cap or crown has dents, which have affected the rim seal.
- The product was submerged in water or chemicals.

Hermetically sealed Cans

Products in hermetically sealed cans that have been exposed to fire and smoke but not excessive heat may be cleaned and relabeled. Hermetically sealed cans exposed to non-potable water may be reconditioned and relabeled under strict, controlled procedures. These procedures include removing all labels, inspecting the cans for pinholes, washing the containers in soapy solution, rinsing the containers in potable water, buffing the cans to remove rust (excluding heavily rusted cans), disinfecting the can by immersion in not less than 100 ppm chlorine solution, thorough drying, and relabeling.

Canned product can be considered **suitable** for reconditioning if:

- The product is not contaminated.
- Surface rust can be removed by buffing.
- Cans soiled by dirt, smoke, etc. can be cleaned by an acceptable method.
- Any insignificant paneling or denting has not affected the double seam or rim.
- Cracking has not compromised the cans corrugation.
- The ends of the can have not bulged.

Canned product should be considered **unsuitable** for reconditioning if:

- The product is contaminated.
- Rust has caused pitting of the can surface.
- The can is soiled and not easily cleanable.
- The can is leaking.
- The seams of the can are severely damaged.
- The can's appearance is abnormal, i.e. flippers, swellers, etc.
- The can has a defective closure mechanism.
- There is evidence of exposure to extremes temperatures.
- The can is dented, extensively creased, paneled, or the dent is on the seam or rim.

Alternative Usage

Certain food products that are unsalvageable for human or animal feed may have alternative uses, such as butter (for soap stock), meat and poultry products (for fertilizer), oils and nuts (for technical oil production), flour (for glue or wallboard construction), grains and fruit (for industrial alcohol), fish (for fertilizer), and eggs (for tannery use).

Food products intended for alternative uses must be denatured to render them unfit for food or animal feed. Continued control must be exercised until final disposition to prevent their reintroduction to the marketplace as food or feed. Firms are required to account for the amounts and types of product denatured, to whom the product was sold, and final use. It may be necessary to examine the product at its final destination to ensure that it is being used in non-food or non-feed product.

**If you need additional guidance or assistance please contact the
Massachusetts Food Protection Program at 617-983-6712.**