

WHITE PAPER : Selection, Care and Maintenance Guide for
: Food Contact Tools and Equipment

Proper maintenance starts here.

In food processing, pharmaceuticals and various other industries, proper maintenance is important for assuring a sanitary processing facility. Properly selecting and using the right tools and equipment for each assigned task is essential to success, as well as ongoing care, cleaning and maintenance of those tools and equipment.

As a trusted manufacturer and the US Exclusive Vikan® Partner supplying color-coded tools for the food processing industry, Remco Products is pleased to share with you this guide to proper selection, care and maintenance of food contact tools and equipment. We'll show you typical applications for Remco and Vikan products, explain the best way to store and clean food contact and hygienic cleaning tools, and provide helpful long-term maintenance tips.

Hygienic Cleaning: An important step in food safety.

Hygienic cleaning tools and methods are utilized throughout various industries as a safeguard to people's health and safety. Industries include: food processing, health care, retail food (restaurants and supermarkets), transportation, and janitorial services. In many cases, such as food processing, hygienic cleaning is a necessary step in maintaining an efficient, clean and code-compliant processing facility — one that controls internal hygiene, mitigates cross-contamination at every step, and documents the cleanliness of the process. Thus, it is important that the proper tools, cleaning and storage methods, and maintenance practices are utilized to assure the highest level of integrity.

Selection: Choosing the right tool for the job.

When selecting tools for use with food processing, it's important to begin by choosing the proper tools for the specific area or task.

Remco and Vikan products are specifically designed to meet the needs of food processing through these product attributes:

- One-piece construction with smooth surfaces that are free of seams and welds with no sharp angles, holes or crevices
- Constructed of materials that meet or exceed the requirements of the U.S. Food and Drug Administration (FDA) CFR Title 21, United States Department of Agriculture (USDA), EU Regulation No. 10/2011 (replaces 2002/72 in 2015) and EU Regulation No. 1935/2004
- Ergonomic designs that are safe for users
- Easy to dismantle and reassemble



Below are just a few applications where Remco and Vikan products are often used:

Work surfaces: Dust pans that hug flat surfaces; hand brushes for conveyor belts, surfaces, tables and equipment; scrapers for scraping bench tops and food prep areas; hygienic bench squeegees remove excess liquid from all work surfaces.

Equipment: Pails, shovels, scoops and scrapers for moving, measuring and mixing around equipment; FDA-compliant polypropylene resin shovels, paddle and hand scrapers, and scoops that are metal detectable for use in compliant facilities; forks, rakes and shovels for easy lifting of food materials; tube brushes for cleaning pipes, tubes and gaps between lines on conveyor belts; equipment brushes ideal for removing stubborn residues on conveyor belts, production lines, machinery and food prep surfaces.

Floors: Squeegees for removing water and other liquid from tiled and safety flooring; brooms with stiff and soft filaments ideal for removing fine particles and debris; deck scrub brushes for cleaning tiled floors in wet areas.

Tanks: Stiff brushes and paddle scrapers suitable for cleaning tank interiors and exteriors.

Walls: Angled, adjustable water-fed brushes and water guns ideal for high-level dirt removal on walls and in difficult-to-reach areas.

Due to the varying needs of the many industries that utilize Remco and Vikan products, it is the responsibility of food processors and other users to make sure their tools and equipment meet their particular industry's requirements. Appropriate regulations should be consulted for more detailed information. Raw materials compliance letters are provided upon request.



Sanitation Terminology.

It's important to understand the terminology and differentiate between the processes used in sanitation: ⁽¹⁾

Sterilize — the statistical destruction and removal of all living organisms.

Disinfect — inanimate objects and the destruction of all vegetative cells (not spores).

Sanitize — the reduction of microorganisms to levels considered safe from a public health viewpoint.

General types of sanitization include:

Thermal Sanitization — the use of hot water or steam for a specified temperature and contact time.

Chemical Sanitization — the use of an approved chemical sanitizer at a specified concentration and contact time.

Storage: Keeping tools clean.

It's important that the tools used around food processing maintain their hygienic qualities. Leaving food contact tools unorganized and in unsanitary locations when not in use is not advised. Proper storage in a clean, protected storage area ensures good hygiene and helps extend tool life. Limiting the storage of tools within their assigned areas is often recommended. A variety of wall brackets are available to conveniently store brushes, squeegees, brooms, dust pans and other food contact tools and equipment.



Extreme temperatures and/or humidity levels can affect the life and lasting quality of the food contact tools and equipment. Extremely cold temperatures or long exposure to very cold temperatures can cause fracturing of tools and possible physical hazards in a food facility. High-humidity areas that do not allow for proper tool drying can support the growth of microbial hazards. The location of the storage unit may be determined by whether or not the tools may be cleaned-in-place or cleaned-out-of-place (COP) in tanks, sinks, autoclaves or a location other than where they are used or stored. Multiple storage locations may be useful, pending whether the tool is needed during processing, or if the tool is used only during sanitation processes.

It is recommended that Remco and Vikan tools be stored hanging in an area that allows them to dry thoroughly after use in an area that protects their sanitary state once cleaned. Vikan offers wall storage systems that provide the following benefits:

- **Adequate space** so tools do not touch or come in contact with the wall or floor, reducing the risk of cross-contamination.
- **Ease of use** with rubber clips and hooks that hold the tools away from the wall and floor.
- **Extensions** that can accommodate tools of various sizes and lengths.
- **Easy to clean** with easily removable hooks and clips.

Maintenance/Replacement: Long-term compliance.

Removing the nutrients that bacteria need to grow and killing the bacteria that is present on food product contact surfaces are the fundamentals of effectively cleaning food contact tools and equipment. The removal of visible contamination such as food soils or loose debris is only the first step. It's critical that personnel understand that proper cleaning is a process that must be followed, regardless of the time necessary.

Cleaning.

Food contact equipment and tools should be regularly maintained according to industry standards. In most cases, the cleaning method — cleaned in place, cleaned-out-of-place (COP) or mechanically cleaned — will be determined by

the equipment design, the facility environment, the equipment's zone in the facility (e.g., food contact or not), the target concerns (e.g., pathogens and allergens), and how often the equipment is cleaned. Generally, guidelines call for the removal of gross debris; tools should be rinsed with water to remove any additional loose debris and then washed in water containing a detergent or chemical deemed appropriate by the particular industry's standards. All contamination should be removed — either wiped or scrubbed off — until it is visibly clean. This should be followed by a rinse that removes any detergent/chemicals used.

Sterilizing/Disinfecting.

Certain industries require sterilizing or disinfecting of material handling and cleaning tools. One option is to use an autoclave which works with a combination of temperature, pressure and time. The idea behind the process is to raise the temperature high enough to kill vegetative cells. Thus, raising the temperature or pressure may produce positive results in a shorter amount of time. The use of an Autoclave Log is also helpful in tracking that each autoclave cycle is properly executed. Depending on the food category and the particular microbiological contaminants of concerns, different guidelines may apply as to the proper combination of temperature, pressure and time that should be followed to assure proper sterilization of the tools and equipment.

Food companies will typically sanitize their equipment and tools using chemical sanitizers, which are considered pesticides and regulated by the EPA. These sanitizers are often alcohol-based and quaternary ammonium compound sanitizers (i.e., Alpet or BioSpray "D2" surface sanitizers); food processors may also use Peroxyacetic Acid or Chlorine Dioxide to sanitize equipment and tools. A number of sanitizers are popular with food processors because they do not require a rinse after their application (e.g., D2 labeled and foaming products).

It is suggested that Remco and Vikan tools should be tested with any autoclave process or sanitizers under consideration since different combinations of time, temperatures and pressures or chemicals will produce different results. Check industry and chemical-supplier recommendations for more specific autoclave and chemical guidelines based on your facilities' needs.

Cleaning Chemicals: Considerations for use.

More often than not, food facilities will use chemicals in the scrubbing/cleaning step of their sanitation process. Certain chemicals are commonplace and acceptable across most industries. However, once a chemical has been added to a cleaning process, it's removal should also be accounted for to assure the chemical does not in any way come in contact with food materials or become a part of future food processing cycles.

For more specific chemical resistance information regarding Remco or Vikan tools and equipment, please contact Remco Products.

How does an autoclave work?

An autoclave uses a combination of temperature, pressure and time to kill microorganisms on food contact equipment and tools.

There are two types of autoclave cycles possible: "liquid runs" which are generally used for water-based solutions, and "dry goods runs" which are used with or without a vacuum. A drying cycle usually follows one of these cycles, blowing hot air through the chamber before items are removed. The general autoclave process works like this: items are placed inside the autoclave chamber, which is securely closed and locked before use.

Using temperatures usually around 121°C (250°F), steam is injected into the autoclave chamber, saturating the items to destroy vegetative cells and endospores. The treatment usually lasts anywhere around 10 to 30 minutes, depending on items being sterilized and process being followed. ⁽²⁾



Life Span: Knowing when to replace food contact tools and equipment.

Food contact tools and equipment should be regularly inspected for damage and wear and tear. It's important to identify when tools should be replaced. Typical signs of wear include:

- Excessive abrasions or gouges
- Tangled or extremely damaged brush filaments
- Discoloration from repeated exposure to sanitation chemicals or high temperatures
- Scratched, damaged or stained making it difficult to remove particles or contamination
- Broken or badly worn to the point where they could become a hazard to the operator or food product process

Note: There may also be special situations where cross-contamination concerns may supersede a sanitation program, in which case the tools may be replaced after each use.

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References:

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- (2) CSULA Environmental Health and Safety Fact Sheet and BioSafety Office USCB EH&S Laboratory Fact Sheet - Rev8/2013
- (3) FDA Title 21 CFR Part 110.40, http://www.ecfr.gov/cgi-bin/text-idx?SID=c2e668fb63665259b85c76b116f17f52&tpl=/ecfrbrowse/Title21/21tab_02.tpl
- (4) Vikan A/S, <http://www.vikan.com/int/>
- (5) EPA Guidance on Regulation of Pesticides, <http://www.epa.gov/pesticides/regulating/laws.htm#ffdca>

REMCO PRODUCTS

About Remco

Remco is a trusted supplier of a wide selection of high quality color-coded sanitation products made from FDA-compliant materials through an ISO-certified manufacturer to meet the demands of several industries and applications. Remco manufactures injection-molded polypropylene tools such as shovels, scoops, scrapers, tubs, and mixing paddles, and is the exclusive US based distributor of Vikan® color-coded brushes, brooms, squeegees, and handles. Ideal for compliance with today's stringent regulations and HACCP guidelines, these hygienic cleaning tools provide the ultimate step in quality assurance and safety. Remco continues to increase customer loyalty by expanding inventories and maintaining a well-earned reputation for excellent customer service. Visit www.remcoproducts.com for a complete catalog.



Exclusive Vikan Partner
in the U.S.

Vikan® is one of the world's leading manufacturers of maximum hygiene cleaning tools with over 115 years of brush-making experience. Based on the needs of customers and regulatory requirements, Vikan develops, produces and sells a broad range of cleaning solutions which are primarily intended for environments where hygiene and efficiency are essential.

