

# THERMA-KLEEN®

## TECH SHEET

### Educational Facilities

A clean school improves the educational environmental, improves student & staff morale, has a positive effect on student absenteeism, reduces the spread of infectious illness, reduces the triggers for allergies and asthma which are possibly the leading chronic illness among children.



Your school should have a measurable cleaning plan that covers, classrooms, cafeterias, kitchens, rest rooms, locker rooms, and even school buses. Additionally, an Infection Control plan should be in place which covers sanitizing and disinfecting and be part of the overall program. The time will come when an infectious disease will be staring you in the face.

#### **TRADITIONAL METHODS are not what they are cracked up to be:**

The traditional methods of cleaning and sanitizing require the use of Chemical Cleaning Agents, which have inherent drawbacks that can cause health & safety problems down the road. OSHA is so concerned with common cleaning products that they developed an entire safety protocol program just for people who work with typical cleaning agents. OSHA notes that health problems related to cancer, breathing conditions, skin issues, eye impairment, and organ damage develop quicker than normal for those who work with or are exposed to cleaning agents on a daily basis. These health effects may show up years after exposure has occurred. This is especially true for children as they are more susceptible to the potential harm presented by the fumes & residue of cleaning chemicals. A child's developing body is less capable of metabolizing and excreting the toxins contained in traditional cleaning chemicals—which increases the risks to their central nervous system, reproductive organs, immune system, and lungs.



There is evidence that the over use of antibacterial and antimicrobial cleaning products – combined with the over-prescription of antibiotics – may produce strains of bacteria that are resistant to disinfectants and antibiotics. There are several issues involved:

- There may not be enough of the antibacterial or antimicrobial agent in these cleaning products to destroy bacteria completely.
- When exposed to antibacterial or antimicrobial cleaning products, most bacteria will die, but some may survive and multiply. These strains can become resistant to antibiotics and disinfectants.
- Resistant strains of bacteria can lead to increased infection risk in the community, and in hospitals, healthcare, and public settings.
- Chemical cleaners can leave behind a biofilm that may act as a protective barrier under which bacteria can find safe harbor and grow with reckless abandon.



**There is Safer, Healthier More Effective and GREEN way to Clean & Sanitize:**

**CLEANING with a Therma-Kleen® Dry Vapor Steam System:**

Heat is the oldest and most effective method of cleaning and sanitizing known to man. Heating ordinary water “NO CHEMICALS” to a very high temperature then pressurizing it creates an odorless dry steam vapor. Millions of hot Nano size vapor molecules attack, break down, and clean surfaces as they penetrate deeply into the pores, nooks and crannies of the item being cleaned. Heat and tiny vapors molecules provide the power that enables vapor to clean deeper and far more effectively than any conventional product. As the Nano sized vapors enter the pores, they meet with the colder surface, violently expand, killing and expelling the debris to be simply wiped away.



To effectively kill infectious organisms and disinfect an area requires a Super-heated steam temperature of at least 250° F, but it is not just the heat that kills, enough pressure is also necessary to get the Vapor into the tiny openings for it to do its clean & kill job. Therma-Kleen Dry Vapor systems produce temperatures up to 380° F with maximum pressures of 160 psi. which is far more than adequate for this purpose.

**ADVANTAGES of Therma-Kleen® Dry Vapor Systems:**

- One step Cleaning & Sanitizing process.
- Super-Heated Steam is well above the threshold for killing infectious organisms, as well as odor and allergy causing mold & mildew which is killed to the root.
- Dry Vapor Heat is the mechanism which breaks the bond that holds dirt to the surface.
- Bacteria does not become immune to Heat.

- No Chemicals, so there are No Toxic or Allergenic Fumes as are often found in Chemical Cleaning Agent which can affect staff and students alike.
- No Chemical residue which can become a health concern in the future.
- No Allergic reactions caused by ingredients within cleaning agents.
- Cleaning Agents can have a corrosive and detrimental effect on many items.
- Improves Employee Morale – Employees do not have to worry about the effects of chemical agents on their current or future health.
- Hazardous run-off containment is reduced.
- Hazardous disposal cost is reduced.
- Safer for Staff as they clean with less personal contact with surface being sanitized.
- The Dry Vapor process used by Therma-Kleen® has a very low moisture content (5-6%), therefore it is friendly around the various electrical equipment found in schools.
- Therma-Kleen is a **GREEN**, Eco-Friendly System.

**Therma-Kleen® Dry Vapor Steam System are Ideal for:**

- Cleaning, Sanitizing & Deodorizes bathrooms, locker rooms (sinks, toilets, showers, mirrors, lockers, etc.).
- Cleans & Sanitizes Tile & Grout better than any other method.
- Cleans & Sanitizes food preparation and service areas.
- Cleans & Sanitizes Kitchens (removes baked on food from ovens, stoves, and cleaning areas that you are unable to reach with chemicals)
- Cleans & Sanitizes classrooms (Floors, Walls, Desks, Equipment, Etc.)
- Cleans & Sanitizes lounge areas, waiting/meeting rooms and other high traffic areas.
- Cleans & Sanitizes after accidental nausea or spillage on carpet, rugs, fabrics, etc.
- Cleans & Sanitizes Walls without leaving them wet.
- Cleans & Softens old wax build-up on floors, hallways, stairs & baseboards.
- Cleans & Sanitizes hard to reach areas such as air conditioner filters and return vents.
- Restores luster to chrome and other similar surfaces.
- Because of the low moisture (5/6 %) Therma-Kleen® units are friendly around electronic equipment.
- Quickly Cleans & Sanitizes mattresses and bedding.
- Cleans & Sanitizes educational, exercise and athletic equipment.
- Cleans & Sanitizes the insides of school busses.



- Kills Fleas, Ticks, Dust Mites, Bed Bugs, Etc. in carpeting & fabrics.
  - MRSA, aka Methicillin-Resistant Staphylococcus Aureus, is an infection that is very hard to treat and is one of the most dreaded of infections. This is why medical facilities work very hard to disinfect and prevent MRSA. Even though they are most frequently developed in patients in healthcare or hospital settings, they do show up in educational setting. MRSA is particularly hard to treat because it is resistant to most antibiotics. Once MRSA is present it is a major problem because it is highly contagious.
  - **Clinical Microbiology Review:** notes just how effective steam is for disinfection of contagious infection, “Steam Vapor Machines are rapidly effective against a wide range of pathogens, notably VRE, MRSA, and Gram-negative bacilli, including P. aeruginosa. Initial inocula of 7 log10 selected organisms are reduced to undetectable levels in less than 5 seconds following exposure to steam. The total surface bioburden from hospital surfaces is decreased by more than 90%, along with almost complete elimination of pathogens.”

#### **Therma-Kleen Systems:**

For use in school environment, the equipment must be constructed in a manner which will allow the system to operate day after day. Therma-Kleen units are not light duty plastic machines, they are:

- Heavy gauge industrial with Stainless-Steel Body & Frame.
- Stainless-Steel hose with heavy duty cover.
- Stainless-Steel Boiler with life time warranty.
- Incoloy Super Alloy Heating Element.
- All fittings are Stainless-Steel/Brass not plastic like others in this class.
- Built-in handle with accessory storage is standard on most models.
- They are easy to use.
- Your staff will find that it takes them less time to do a better job.
- The most effective way of ridding your facility of dirt & germs.
- Totally **GREEN** Eco-friendly process.



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