

CleanSmart and Oxivir

Oxivir TB and CleanSmart are both disinfectants on the EPA's "List N" (EPA Reg #89896-2) of products effective against coronavirus and other emerging pathogens. CleanSmart has a number of advantages over Oxivir TB, including on the surfaces where it can be applied and its lower toxicity. As a result, it is recognized for its efficacy and its safety.

CleanSmart comparison with Oxivir TB

CleanSmart is better suited for use in many facilities than Oxivir TB since it is highly effective and also non-toxic. Made by Simple Science of Minneapolis, MN, the product is not an asthmagen and does not require PPE to apply.

- CleanSmart and Oxivir are both on the EPA's "List N" and both have EPA label claims for use in various locations such as offices, schools and gyms.
- While CleanSmart has longer dwel times than Oxivir for most pathogens, If applied properly, no wipe-down is needed after application, reducing labor costs. Required dwell times will be achieved before CleanSmart evaporates.
- CleanSmart's EPA label includes claims for use around babies and small children, including on high chairs, toys, and even pacifiers. Given the propensity of young children to put objects into their mouths, these claims are important for any location where children may be present. *Oxivir does not have these claims.*
- CleanSmart is safe for use on food contact surfaces and food preparation surfaces, important areas for schools to disinfect. *Oxivir can be used only on non-food contact surfaces and countertops, or it must be wiped down after application on food contact surfaces.*

The most significant difference between the two disinfectants is in the safety and toxicity of their active ingredients, which is critical given the importance of a decision on disinfectants on the health and safety of employees, custodial professionals, and visitors.

- The active ingredient in CleanSmart is hypochlorous, which is a weak acid that occurs naturally in our body. Numerous peer-reviewed scientific papers have shown hypochlorous to be both highly effective and non-toxic.¹
- The active ingredient in Oxivir is hydrogen peroxide, which is a strong oxidant known to cause eye and airway irritation. According to a study published in the Journal of the American Medical Association (JAMA) in 2019² of over 73,000

¹ See White Papers previously provided.

² Dumas et al. Association of Occupational Exposure to Disinfectants with Incidence of Chronic Obstructive Pulmonary Disease Among US Female Nurses. JAMA 2(10). 2019.

nurses followed from 2009-2015, exposure to cleaning products and disinfectants (specifically bleach, glutaraldehyde, hydrogen peroxide, alcohol and quaternary ammonium compounds) was significantly associated with an increased risk of developing chronic obstructive pulmonary disease, COPD. This includes diseases such as emphysema and chronic bronchitis, which make it difficult and painful to breathe. Even once weekly exposure led to a 32% increased chance of developing COPD.

CleanSmart EPA Label and SDS

Excerpts from the CleanSmart EPA label (EPA Reg#89896-2) are below.

For use in commercial settings such as: Corrections facilities, schools, public restrooms, institutional kitchens, office buildings, and athletic facilities.

SANITIZATION:

Hard, Non-Porous Non-food Contact Surfaces:

Spray

(To kill 99.9% of bacteria on (all) non-food surfaces –or– sanitize (all) hard, non-porous non-food contact surfaces.) Spray (this product) on surface (until thoroughly wet). Let stand for 5 minutes. (If desired) wipe with paper towel or clean dish towel. (Air dry, no rinsing necessary.) For heavily soiled surfaces, (a) precleaning (step) is required.

Organisms (list 1): Escherichia coli (E. coli), Enterobacter aerogenes, Salmonella enterica (Salmonella), Staphylococcus aureus (Staph), Streptococcus pneumoniae (Strep), Vancomycin Resistant Enterococcus faecalis (VRE), Methicillin Resistant Staphylococcus aureus (MRSA)

Hard, Non-Porous Food Contact Surfaces:

Spray

(To kill 99.9% of bacteria on (all) food-contact surfaces –or– sanitize (all) food-contact surfaces.) Spray (this product) on surface. Let stand for 1 minute/60 seconds. (If desired) wipe with paper towel or clean dish towel. (Air dry, no rinsing necessary.) For heavily soiled surfaces, (a) precleaning (step) is required.

Organisms (list 2): Escherichia coli (E. coli), Salmonella typhi (Salmonella), Staphylococcus aureus (Staph)

DISINFECTION:

Hard non-porous surfaces:

Spray

(To kill 99.9% of germs on (all) hard, non-porous surfaces –or– disinfect (all) hard, non-porous surfaces.) Spray (this product) on surface (until thoroughly wet). Let stand for 10 minutes. (If desired) wipe with paper towel or clean dish towel. (Air dry, no rinsing necessary, even on food contact surfaces.) For heavily soiled surfaces, (a) precleaning (step) is required.

Organisms (list 3): Escherichia coli (E. coli), Salmonella enterica (Salmonella), Staphylococcus aureus (Staph), Streptococcus pyogenes (Strep), Vancomycin Resistant Enterococcus faecalis (VRE), Methicillin Resistant Staphylococcus aureus (MRSA), Pseudomonas aeruginosa (Pseudomonas), Listeria monocytogenes (Listeria), Herpes Simplex Virus Type 1 (Herpes), Herpes Simplex Virus Type 2 (Herpes), HIV Type 1 (HIV), Influenza A (H1N1), Rhinovirus Type 37 (Common Cold), Human Coronavirus, Respiratory Syncytial Virus (RSV), Trichophyton mentagrophytes (causes Athlete's Foot Fungus), when used as directed

CleanSmart EPA Label Excerpt - Use Sites

USE SITES (Table 1):			
<ul style="list-style-type: none"> • Around Toilet Areas • (Around) Toilets • Automobiles • Animal Equipment • Baby Bottles • Baby Toys • (Bath)tubs • Bathroom (counter) tops • Bathroom (surfaces) • Beverage bars • Blinds • Boat interiors • Booster chairs • Breast pump parts • Breast pumps • Cabinet Handles • Cabinets • Can openers • Cars • Children's (Kid's) (Wading) pool • Children's (Kid's) Table • (Computer) Keyboards • Counter(s) -or- Countertop(s) • Car interiors • Cupboards • Dairy cases • (Diaper) Changing Tables • Diaper Pails • Dining Room Tables • Dish Racks • Dishwashers • New born Nurseries • Neonatal Nurseries 	<ul style="list-style-type: none"> • Door Handles • Doorknobs • Doors • Drainboards • Dryers • (Empty) Clothes Hampers • (Empty) Garbage Cans • Faucets • Floors • Food Cases • Food Contact Surfaces-hard non-porous • Food Preparation (surfaces) (areas) • Food serving areas • Food trays • Freezers • Grills • Grocery Carts • (Grocery) Checkout Areas • Handrails • High Chair Trays • High Chairs • Inside Dishwasher(s) (interiors)(and)(exteriors) • (Inside) Freezer(s) (interiors) (and) (exteriors) • (Inside) Microwave(s) (interiors) (and) (exteriors) • (Inside) Refrigerator(s) (interiors) (and) 	<ul style="list-style-type: none"> • Kid's (Children's) Playroom (Toys) • (Kitchen) Appliances • (Kitchen) (Bathroom) Sinks • Kitchen (Counter)tops • (Kitchen) (dining room) Tables • Kitchen surfaces • Kitchen tools • Knives • Laundry Rooms • Light Switches • Litter box • Lunch Pails • Medicine Dropper • Mouthguard • Neti Pots • Oven doors • Ovens • Pacifiers • Pet Bowl(s) (Areas) • Pet Feeding Dishes • Pet Cages • Pet Toys • Piano Keys • Plastic Cutting Boards* • Plastic Patio Furniture • Playpens • Potty-Chair(s) (Seats) • Preschools • Range hoods • Range tops • Recycling Bins • Day Cares • Nursing Homes • Assisted Living • Orthotics • Hard surface yoga mats 	<ul style="list-style-type: none"> • Refrigerators • Restrooms • (Salad bar) Sneeze Guards • Shower (Faucets) (Doors) (Handles) (Fixtures) (Walls) (Floors) • Sink (Faucets) (fixtures) (Handles) • Snack counters • Soap Dispensers • Storage Areas • Stovetops • Steering wheel • Thermos • Toasters • Toilet [(Flushing) (handles) (seats) (surfaces) (exteriors)] • Tongs • Towel (tissue) dispensers • Under sinks • Vanities • Vanity Tables • (Vinyl) Shower Curtains • Walls • Washing Machines • Windowsill • Baby swings • Phones • Keys • Cribs • Kennels • Garbage Can • Waste basket • Pee mats • Offices

The full SDS for CleanSmart is attached, and an excerpt is below: The product has the highest possible ratings for safety, and is not considered hazardous per the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

CleanSmart SDS

GHS Label elements, including precautionary statements

Emergency Overview

The product contains no substances which at their given concentration, are considered to be hazardous to health.

Appearance: Clear

Physical state: Liquid

Odor: Mild/Slight Hypochlorous odor

Precautionary Statements - Prevention

None

Precautionary Statements - Response

None

Precautionary Statements - Storage

None

Precautionary Statements - Disposal

None

Hazards not otherwise classified (HNOC)

Not applicable

Unknown Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

Other information

May cause slight eye irritation

Interactions with Other Chemicals

No information available.

