Calla® 1452 Instruction Manual

Safety Steps and Procedures To Follow Prior To Applying Calla® 1452:

Always refer to the safety data sheet (SDS), technical data sheet (TDS), and label prior to applying **Calla® 1452** if you have any questions about this product.

Wear protective eyewear, clothing, and gloves to prevent **Calla® 1452** from making contact with the skin and eyes.

Calla® 1452 Product Information and Benefits:

Calla® 1452 eliminates **99.9%^** of the virus that causes **COVID-19*** *on hard non-porous surfaces in **1 minute**!*
^when used according to disinfection directions
SARS-Related Coronavirus 2

Calla® 1452 is a phosphate-free disinfectant and cleaner that works as a detergent, deodorizer, and **virucide**.

Calla® 1452 is a **fungicide** for **pathogenic fungi** and is a **mildewstat** on hard, non-porous, inanimate surfaces and is an effective general purpose cleaner, deodorizer, and disinfectant.

Calla® 1452 is formulated to a neutral pH and will not dull high-gloss floor finishes with repeated use.

Calla® 1452 disinfects hard, non-porous, and inanimate environmental surfaces, such as floors, walls, metal surfaces, stainless steel surfaces, glazed porcelain, glazed ceramic tile, plastic surfaces, vanity tops, shower stalls, bathtubs, cabinets, windows, toilets, sinks, mirrors, sealed granite, doorknobs, sealed fiberglass, chairs, and desks (**when used as directed**)

Calla® 1452 cleans, deodorizes, and disinfects transportation terminals and manufacturing facilities, where housekeeping is of prime importance in controlling cross-contamination from treated surfaces.

Calla® 1452 deodorizes a variety of places, such as garbage storage areas, empty garbage bins and cans, toilet bowls, and other areas which are prone to odors caused by microorganisms.

Calla® 1452 can be used in garages, boats, ships, campers, trailers, mobile homes, cars, buses, trains, taxis and airplanes.

Efficacy tests have demonstrated that **Calla® 1452** is an effective **bactericide** and **virucide** against a variety of organisms in water up to **400 ppm** hardness (as $CaCO_3$) in the presence of organic soil **(5%** blood serum). **Calla® 1452** is an effective fungicide against certain fungi in water up to **200 ppm** hardness (as $CaCO_3$)) in the presence of organic soil (**5%** blood serum).

Calla® 1452 kills **HIV-1**, **HIV-2**, **HBV**, and **HCV** on pre-cleaned environmental surfaces/objects previously soiled with blood/body fluids in health care settings or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids, and in which the surfaces/objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of **Human Immunodeficiency Virus Type 1 or Type 2 (HIV-1 or HIV-2) (associated with AIDS)**, **Hepatitis B Virus (HBV)**, and **Hepatitis C Virus (HCV)**.

Calla® 1452 has demonstrated effectiveness against viruses similar to the **Marburg** virus on hard non-porous surfaces. Therefore, **Calla® 1452** can be used against the **Marburg** virus when used in accordance with the directions for use against **Rotavirus (ATCC VR 899)** on hard non-porous surfaces. Refer to the **CDC** website at **https://www.cdc.gov/vhf/marburg/index.html** for additional information. Please see the most current **EPA** approved master label for product eligibility and for further details.

Calla® 1452 (**EPA Reg # 1839-168-67026**) has demonstrated effectiveness against viruses similar to **Hantavirus** on hard, non-porous surfaces. Therefore, this **product** can be used against **Hantavirus** when used in accordance with the directions for use against **Rotavirus (ATCC VR-899)** on hard, non-porous surfaces. Refer to the **CDC** website at **https://www.cdc.gov/hantavirus/hcp/clinical-overview/hps.html** for additional information.

Procedures For Applying Calla® 1452:

Do not mix **Calla® 1452** with detergents or other chemicals.

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Procedures For Applying Calla® 1452 (Cont From Page 1):

Disinfection: To disinfect inanimate, hard non-porous surfaces, add **4 ounces** of **Calla® 1452** Neutral Disinfectant Cleaner **per gallon** of water. Apply solution with a mop, cloth, sponge, hand pump trigger sprayer, or low pressure coarse sprayer so as to wet all surfaces thoroughly. Allow to remain wet for **10 minutes**, then remove excess liquid. For sprayer applications, spray **6-8 inches** from surface, rub with brush, sponge, or cloth. Do not breathe spray mist. For heavily soiled areas, a pre-cleaning step is required. Follow these same procedures if using **Calla® 1452** for deodorizing.

To disinfect toilet bowls: Remove debris and soils from surfaces with bowl brush. Add **4 ounces** of **Calla® 1452** to the bowl water and mix. Use brush or sponge to apply this solution to all bowl surfaces above water line. Scrub surfaces completely, making sure to scrub under the rim. Let stand for **10 minutes** and flush.

Bacterial Stability Of Use Solution: Tests confirm that **Calla® 1452** when diluted at **4 ounces/gallon** in hard water up to **400 ppm** (as $CaCO_3$) remains effective against **Pseudomonas aeruginosa**, **Staphylococcus aureus** and **Salmonella (choleraesuis) enterica** for up to **4 weeks** when stored in a sealed container such as a spray bottle at room temperature. If **Calla® 1452** becomes visibly dirty or contaminated, the use-solution must be discarded and fresh use-solution prepared. Always use clean, properly labeled containers when diluting **Calla® 1452**. Bactericidal stability of the use-solution does not apply to open containers, such as buckets or pails.

Fungicidal Activity: At the **4 ounce per gallon** dilution, **Calla® 1452** is fungicidal against the **pathogenic fungi**, **Trichophyton Mentagrophytes (Athlete's Foot Fungus) (a cause of ringworm)** and **Candida Albicans**. Apply solution with a cloth, sponge, or hand pump trigger sprayer to hard, non-porous surfaces found in bathrooms, shower stalls, locker rooms, exercise facilities or other clean, hard non-porous surfaces commonly contacted by bare feet. Allow the surface to remain wet for **10 minutes**, then remove excess liquid. Diluted **Calla® 1452** should be applied **daily or more frequently** with heavy facility use.

Mildewstat: To control mold and mildew (**Aspergillus niger**) and the odors they cause on pre-cleaned, hard, non-porous inanimate surfaces, add **4 ounces** of **Calla® 1452 per gallon** of water. Apply solution with a cloth, mop, sponge, or hand pump trigger sprayer making sure to wet all surfaces completely. Let air dry. Prepare a fresh solution for each use. Repeat application at **weekly intervals** or when mildew growth appears.

Virucidal Activity: Calla® 1452 when used on environmental, inanimate, hard, non-porous surfaces exhibits effective **virucidal** activity against **HIV-1**, **HIV-2**, **Hepatitis B Virus (HBV)**, **Hepatitis C Virus (HCV)**, **Herpes Simplex Type 1 (causative agent of fever blisters)**, **Herpes Simplex Type 2 (genital)**, **Influenza A2/Hong Kong**, **Vaccinia**, **Rotavirus**, **Human Coronavirus (ATCC VR-740, Strain 229E)**, **SARS associated Coronavirus**, **Bovine Viral Diarrhea Virus (BVDV)**, **Pseudorabies**, **Bovine Rhinotracheitis**, **Feline Leukemia**, **Feline Picornavirus**, **Avian Influenza A Virus H9N2**, **Avian Influenza A Virus H3N2**, **Canine Distemper Virus**, **Rabies Virus**, **Paramyxovirus (Mumps)** and **Porcine Respiratory & Reproductive Syndrome Virus (PRRSV)**. Add **4 ounces** of **Calla® 1452 per gallon** of water. For heavily soiled areas, a pre-cleaning step is required. Apply solution with a cloth, mop, sponge, hand pump trigger sprayer or low pressure coarse sprayer so as to wet all surfaces thoroughly. Allow the surface to remain wet for **10 minutes**, then remove excess liquid.

General Cleaning: Apply **Calla® 1452** to soiled area with a mop, cloth, sponge, hand pump trigger sprayer or low pressure coarse sprayer. **Calla® 1452** can be diluted at **4 ounces per gallon** or applied at **full strength**. Thoroughly wet soiled surface and scrub as necessary.

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Procedures For Applying Calla® 1452 (Cont From Page 2):

Bacterial Activity: At the **4 ounce per gallon dilution (or equivalent dilution)**, **Calla® 1452** demonstrates effective disinfectant activity against the organisms: **Pseudomonas aeruginosa PRD-10**, **Salmonella (choleraesuis) enterica**, **Staphylococcus aureus**, **Staphylococcus aureus (clinical isolate)**, **Bordetella bronchiseptica**, **Corynebacterium ammoniagenes**, **Enterobacter aerogenes**, **Enterobacter cloacae**, **Enterobacter cloacae (clinical isolate)**, **Enterococcus faecalis**, **Enterococcus faecalis (clinical isolate)**, **Escherichia coli**, **Escherichia coli (clinical isolate)**, **Fusobacterium necrophorum**, **Klebsiella pneumoniae subsp. pneumoniae**, **Lactobacillus casei subsp. rhamnosus**, **Listeria monocytogenes**, **Pasteurella multocida**, **Proteus vulgaris**, **Proteus mirabilis ATCC 9921**, **Proteus mirabilis ATCC 25933**, **Salmonella (paratyphi B) enterica**, **Salmonella (typhi) enterica**, **Salmonella (typhimurium) enterica**, **Salmonella (pullorum) enterica**, **Serratia marcescens**, **Shigella sonnei**, **Shigella flexneri Type 2b**, **Shigella dysenteriae**, **Staphylococcus aureus subsp. aureus**, **Staphylococcus epidermidis**, **Staphylococcus epidermidis (clinical isolate)**, **Streptococcus pyogenes (Clinical - Flesh Eating Strain BIRD M3)**, **Streptococcus pyogenes Group A**, **Xanthomonas maltophilia (clinical isolate)**, **Vancomycin resistant Enterococcus faecalis (VRE)**, **Methicillin resistant Staphylococcus aureus (MRSA)**, **Vancomycin intermediate resistant Staphylococcus aureus (VISA)**, **Community Associated Methicillin resistant Staphylococcus aureus (CA-MRSA) NRS 123 Genotype USA400**, **Community Associated Methicillin resistant Staphylococcus aureus (CA-MRSA) NRS 384 Genotype USA300**, **Salmonella (enteritidis) enterica**, **Ampicillin resistant Acinetobacter baumannii**, **Cefazolin resistant Acinetobacter baumannii**, **Ceftazidime resistant Acinetobacter baumannii**, **Ceftriaxone resistant Acinetobacter baumannii**, **Gentamicin resistant Acinetobacter baumannii**, **Tobramycin resistant Acinetobacter baumannii**, **Ciprofloxacin resistant Acinetobacter baumannii**, **Levofloxacin resistant Acinetobacter baumannii** and **Bactrim resistant Acinetobacter baumannii**.

9.) Contact Time: Allow surface to remain wet for **10 minutes**.

Methods For Applying Calla® 1452:

Calla® 1452 can be applied via various types of spray and bulk application equipment. See below and next 4 pages for equipment that can be used and procedures for setting up these devices to ensure that **Calla® 1452** is properly applied.

1.) HVLP Spray Gun Setup

HVLP Spray Gun

A.) Set the air pressure. This is very important because if there is too much pressure, then the texture and spray of **Calla® 1452** will be dry. Too little pressure however, results in a poor atomization and orange peeling of **Calla® 1452**.

B.) If you see texture in the spray of **Calla® 1452**, then increase the air pressure of your **HVLP gun**. If you see an overspray cloud of **Calla® 1452**, then decrease the air pressure slightly. The proper spray pattern for **Calla® 1452** should be a **slightly wet pass** with **no flooding or sagging** because thinly applied products like **Calla® 1452** can run very fast.

C.) One pattern that should be used when using the **HVLP gun** to apply **Calla® 1452** is the **fan pattern** because it uses a **full wide fan spray** which provides better consistency and leveling when applying **Calla® 1452** with the **HVLP spray guns**.

D.) The air pressure when the trigger is pulled for the gun should be **20–30 PSI** even though most guns specify **10 PSI** at the air cap.

E.) Always set the pressure with the trigger fully pulled because the pressure drops under flow.

F.) Close off the air and fluid adjustment knobs.

G.) Slowly open the air adjustment knob with the trigger pulled.

H.) Open the fluid adjustment knob slowly until you see a fine mist from the air cap.

I.) Continue to fine tune the settings until the desired spray pattern is achieved.

Calla® 1452 Instruction Manual

Methods For Applying Calla® 1452:

2.) Air Assisted Spray Gun Setup

Airverter Spray Gun

A.) Determine the tip size for the gun. This is very important especially for a thin material**,** such as **Calla® 1452**.

Note: Do not increase the gun tip size especially to **.015 " or more** when applying **Calla® 1452** because the applied material will exhibit the following characteristics below.

*Too much **Calla® 1452** being applied
***Calla® 1452** runs
*Orange peel in the **Calla® 1452**
*An overspray cloud in the applied **Calla® 1452**

B.) For pressure settings, use the lowest pressure possible so that **Calla® 1452** can be spray applied as a **clean fan** with the width of the spray being shaped like a **fan**. The setup of **airless spray equipment** varies based on the size and type of gun that is being used but a good starting point for the pressure of the **airless spray gun** should be around **900-1200 PSI**.

C.) Slowly increase the pressure of the gun until the **fan spray** pattern of **Calla® 1452** is fully developed and even and there are no fingers or tails on the edges of the spray equipment. If you hear a harsh hissing noise or see fogging in the spraying of the **Calla® 1452**, then the pressure of the air assisted spray gun is too high. None of these observations should occur because thin materials like **Calla® 1452** atomize very easily.

D.) Set the pump ratio of the equipment to a range of 6**0:1 to 30:1**.

E.) Setup the following parts for the **air assisted spray guns** below.

***Displacement Pump With A Positive Piston Type**
***Stainless Steel Filter With A High Pressure With 200-300 mesh element**

F.) Maintain your distance of the gun from the surface as the distances between **air assisted spray guns** and other spray methods can vary. A good distance to follow for air assisted spray guns is about **12" or more**. If you spray apply **Calla® 1452** at a distance closer than **12"**, then there will be a heavy buildup of **Calla® 1452**, tiger stripping of material from the surface where the **Calla® 1452** was applied, applied, and a variation in the gloss of the **Calla® 1452**.

G.) Consider the passing speed of **Calla® 1452** because the output of **Calla® 1452** from **air assisted spray guns** can vary between other spray methods. Therefore, you may need to move faster or slower than other spray methods, such as **HVLP guns**.

H.) The **Calla® 1452** should be spray applied as a **smooth continual pass** with a **50% overlap**.

I.) The table below lists some differences between the **HVLP** spray method and the **air assisted spray gun** methods.

HVLP	Air Assisted Spray Gun
Soft spray of **Calla® 1452**	More aggressive fan spray of **Calla® 1452**
Slow **Calla® 1452** output	Fast output of **Calla® 1452**
Very forgiving when applying **Calla® 1452**	**Calla® 1452** can run quickly
Less overspray bounce of **Calla® 1452**	More fogging potential for **Calla® 1452** than with **HVLP** spray method

Calla® 1452 Instruction Manual

Methods For Applying Calla® 1452 (Cont From Page 4):

3.) Airless Spray Setup

Airless Spray Equipment

A.) Determine the tip size for the gun. This is very important especially for a thin material, such as **Calla® 1452**.

Note: Do not increase the gun tip size especially to **.015 " or more** when applying **Calla® 1452** because the applied material will exhibit the following characteristics below.

*Too much **Calla® 1452** being applied
*__Calla® 1452__ runs
*Orange peel in the **Calla® 1452**
*An overspray cloud in the applied **Calla® 1452**

B.) For pressure settings, use the lowest pressure possible so that **Calla® 1452** can be spray applied as a **clean fan** with the width of the spray being shaped like a **fan**. The setup of **airless spray equipment** varies based on the size and type of gun that is being used but a good starting point for the pressure of the **airless spray gun** should be around **900-1200 PSI**.

C.) Slowly increase the pressure of the gun until the **fan spray** pattern of **Calla® 1452** is fully developed and even and there are no fingers or tails on the edges of the spray equipment. If you hear a harsh hissing noise or see fogging in the spraying of the **Calla® 1452**, then the pressure of the airless spray gun is too high. None of these observations should occur because thin materials like **Calla® 1452** atomize very easily.

D.) Set the pump ratio of the equipment to a range of **60:1 to 30:1**.

E.) Setup the following parts for the **airless spray equipment** below.
***Displacement Pump With A Positive Piston Type**
***Stainless Steel Filter With A High Pressure With 200-300 mesh element**

F.) Maintain your distance of the gun from the surface as the distances between **airless spray guns** and other spray methods can vary. A good distance to follow for **airless spray guns** is about **12" or more**. If you spray apply **Calla® 1452** at a distance closer than **12"**, then there will be a heavy buildup of **Calla® 1452**, tiger stripping of material from the surface where the **Calla® 1452** was applied, and a variation in the gloss of the **Calla® 1452**.

G.) Consider the passing speed of **Calla® 1452** because the output of **Calla® 1452** from **airless spray guns** can vary between other spray methods. Therefore, you may need to move faster or slower than other spray methods, such as **HVLP guns**.

H.) The **Calla® 1452** should be spray applied as a **smooth continual pass** with a **50% overlap**.

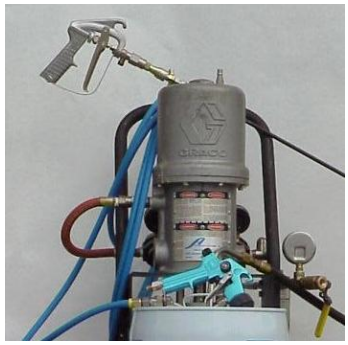
I.) The table below lists some differences between the **HVLP spray method** and the **airless spray gun** methods.

HVLP	Airless Spray Gun
Soft spray of **Calla® 1452**	More aggressive fan spray of **Calla® 1452**
Slow **Calla® 1452** output	Fast output of **Calla® 1452**
Very forgiving when applying **Calla® 1452**	**Calla® 1452** can run quickly
Less overspray bounce of **Calla® 1452**	More fogging potential for **Calla® 1452** than with **HVLP** spray method

Calla® 1452 Instruction Manual

Methods For Applying Calla® 1452 (Cont From Page 5):

4.) Calla® 1452 5 Gallon (18.9 Liter) Cart Sprayer Setup



A.) Determine the tip size for the gun. This is very important especially for a thin material such as **Calla® 1452** including thin coatings, such as clears and sealers.

Note: Do not increase the gun tip size especially to **.015 " or more** when applying **Calla® 1452** because the applied material will exhibit the following characteristics below.
*Too much **Calla® 1452** being applied
***Calla® 1452** runs
*Orange peel in the **Calla® 1452**
*An overspray cloud in the applied **Calla® 1452**

B.) For pressure settings, use the lowest pressure possible so that **Calla® 1452** can be spray applied as a **clean fan** with the width of the spray being shaped like a **fan**. The setup of **5 Gallon (18.9 Liter) Cart Sprayers** varies based on the size and type of gun that is being used but a good starting point for the pressure of the **5 Gallon (18.9 Liter) Cart Sprayer** should be around **900-1200 PSI**.

C.) Slowly increase the pressure of the gun until the **fan spray** pattern of **Calla® 1452** is fully developed and even and there are no fingers or tails on the edges of the spray equipment. If you hear a harsh hissing noise or see fogging in the spraying of the **Calla® 1452**, then the pressure of the **5 Gallon (18.9 Liter) Cart Sprayer** is too high. None of these observations should occur because thin materials like **Calla® 1452** atomize very easily.

D.) Set the pump ratio of the equipment to a range of **20:1 to 30:1**.

E.) Setup the following parts for the **5 Gallon (18.9 Liter) Cart Sprayer** below.
***Displacement Pump With A Positive Piston Type**
***Stainless Steel Filter With A High Pressure With 200-300 mesh element**

F.) Maintain your distance of the gun from the surface as the distances between the **5 Gallon (18.9 Liter) Cart Sprayer** and other spray methods can vary. A good distance to follow for the **5 Gallon (18.9 Liter) Cart Sprayer** is about **12" or more**. If you spray apply **Calla® 1452** at a distance closer than **12"**, then there will be a heavy buildup of **Calla® 1452**, tiger stripping of material from the surface where the **Calla® 1452** was applied, and a variation in the gloss of the **Calla® 1452**.

G.) Consider the passing speed of **Calla® 1452** because the output of **Calla® 1452** from the **5 Gallon (18.9 Liter) Cart Sprayers** can vary between other spray methods. Therefore, you may need to move faster or slower than other spray methods, such as **HVLP guns**.

H.) The **Calla® 1452** should be spray applied as a **smooth continual pass** with a **50% overlap**.

I.) The table below lists some differences between the **HVLP** spray method and the airless spray gun methods.

HVLP	Calla® 1452 5 Gallon (18.9 Liter) Cart Sprayer
Soft spray of **Calla® 1452**	More aggressive fan spray of **Calla® 1452**
Slow **Calla® 1452** output	Fast output of **Calla® 1452**
Very forgiving when applying **Calla® 1452**	**Calla® 1452** can run quickly
Less overspray bounce of **Calla® 1452**	More fogging potential for **Calla® 1452** than with **HVLP** spray method

Calla® 1452 Instruction Manual

Methods For Applying Calla® 1452 (Cont From Page 6):

5.) Electro-Static Spray Gun Setup

Electro-Static Spray Gun

A.) Minimize the flow of **Calla® 1452** for the required coating speed and film thickness.

B.) Minimizing the target distance of spraying **Calla® 1452**.

C.) Ensure that the **Calla® 1452** to be sprayed has a very high resistivity of at least **1 mega-ohm**.

D.) Attach charging unit to the gun and object to be sprayed with **Calla® 1452**.

E.) Gradually increase in-line air pressure so that the spray provides proper **Calla® 1452** build at the required coating speed and ensure that the pressure does not exceed **100 psi**.

F.) Fluid pressure is typically **400-800 psi** so make sure it is set to that psi range.

G.) Turn on charging unit and begin spraying **Calla® 1452**.

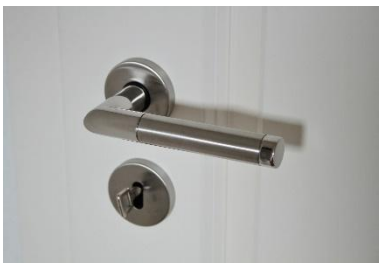
It is important to ensure that the **HVLP**, **air assisted**, **airless**, **5 Gallon (18.9 Liter) Cart Sprayer**, or **electrostatic paint gun** for applying **Calla® 1452** are properly setup for the following reasons below.

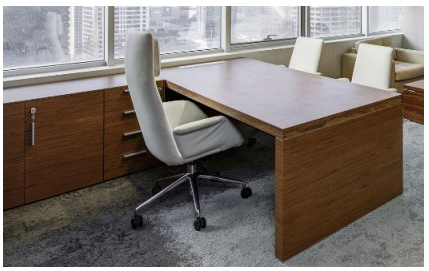
*Decrease odor, fogging, and mist from the application of **Calla® 1452**
*Increase the transfer efficiency of the **Calla® 1452** from the equipment to the area it needs to be applied to
*Ensure that **Calla® 1452** will be applied according to how it was designed to be applied with respect to **optimum weight to performance balance**

Areas Where Calla® 1452 Should Be Applied:

Calla® 1452 should be applied on:

* Glazed Ceramic Tile
* Plastic Surfaces
* Floors
* Walls
* Metal Surfaces
* Windows
* Toilets
* Sinks
* Mirrors
* Sealed Granite
* Doorknobs
* Sealed Fiberglass
* Chairs
* Desks
* Stainless Steel Surfaces
* Glazed Porcelain
* Transportation Terminals
* Manufacturing Facilities
* Automotive Garages
* Boats
* Ships
* Campers
* Trailers
* Cars
* Buses
* Taxis
* Trains





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Areas Where Calla® 1452 Should Be Applied (Continued From Page 7):

* Mobile Homes
* Airplanes
* Cabinets
* Bathtubs
* Shower Stalls
* Vanity Tops
* Hospitals
* Nursing Homes
* Homes and Households
* Private Residences
* Schools
* Food Service Establishments
* Office Buildings
* Lodging Establishments
* Retail Businesses
* Athletic and Recreation Facilities
* Sports Stadiums
* Amphitheaters
* Convention Centers

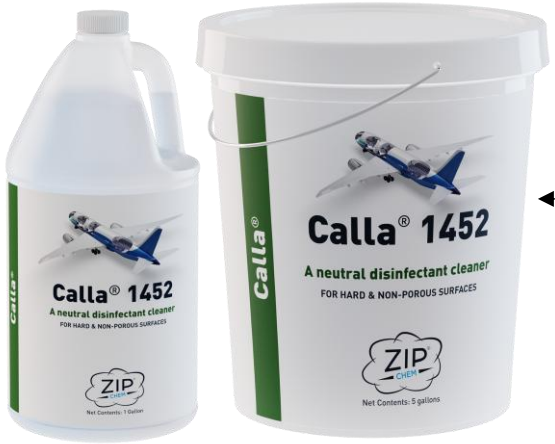
Calla® 1452 Product Pictures and Zip-Chem® Product Packaging Part Numbers and Additional Materials To Order:

Calla® 1452
*Case of 8 each Gallon (4 each of 3.8 Liter (3.785 Litres) Bottles-**009450**
*5 Gallon (18.9 Liter (Litres)) Pail-**007247**

Labeling Devices	Labels	Mixing Devices	Diluting Equipment

Mop	Wiping Devices	Bulk Application Equipment	
Pails	Other Containers	Spraying Equipment	Buckets
Brushing Devices	Protective Clothing	Scrubing Devices	

1 Gallon (3.8 Liter (3.785 Litre)) Bottle (NSN: 6840-01-656-7851) →



← 5 Gallon (18.9 Liter (Litre)) Pail (NSN: 6840-01-600-4177

For application questions regarding **Calla® 1452**, contact **Zip-Chem® Aviation Products** at **(1) 408 782 2335** or **zipchem@addevmaterials.com**.

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