

## 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%<sup>^</sup>** of the virus that causes **COVID-19<sup>\*\*\*</sup>** *on hard non-porous surfaces in 1 minute!*

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

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

**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.

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<sub>3</sub>) 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<sub>3</sub>) 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)**.

## Procedures For Applying Calla® 1452:

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

**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<sub>3</sub>) 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.



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

**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. 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 the product **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. This product can be diluted at **4 ounces per gallon** or applied at **full strength**. Thoroughly wet soiled surface and scrub as necessary.

**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 next pages for equipment that can be used and procedures for setting up these devices to ensure that Calla® 1452 is properly applied.

## Methods For Applying Calla® 1452:

### 1.) HVLP Spray Gun Setup

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.

### 2.) Air Assisted Spray Gun Setup

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 **air assisted 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 **air assisted spray equipment** 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 **20:1 to 30:1**.

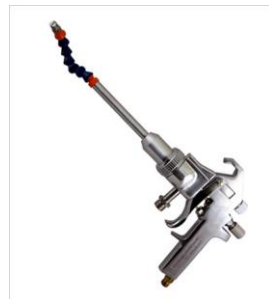
E.) Setup the following parts for the airless spray equipment

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

HVLP Spray Gun



Airverter Spray Gun



## Methods For Applying Calla® 1452 (Continued From Page 3):

### Air Assisted Spray Gun Setup (Continued From Page 3)

- 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, 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 <b>Calla® 1452</b>	More aggressive fan spray of <b>Calla® 1452</b>
Slow <b>Calla® 1452</b> output	Fast output of <b>Calla® 1452</b>
Very forgiving when applying <b>Calla® 1452</b>	<b>Calla® 1452</b> can run quickly
Less overspray bounce of <b>Calla® 1452</b>	More fogging potential for <b>Calla® 1452</b> than with <b>HVLP</b> spray method

### 3.) Airless Spray Setup

- 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**

Airless Spray Equipment



- 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 **20:1 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**.

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

### Airless Spray Setup (Continued From Page 4)

- 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.

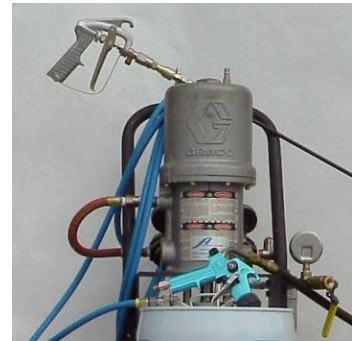
HVLP	Airless Spray Gun
Soft spray of <b>Calla® 1452</b>	More aggressive fan spray of <b>Calla® 1452</b>
Slow <b>Calla® 1452</b> output	Fast output of <b>Calla® 1452</b>
Very forgiving when applying <b>Calla® 1452</b>	<b>Calla® 1452</b> can run quickly
Less overspray bounce of <b>Calla® 1452</b>	More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

### 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 Sprayer** 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 **5 Gallon (18.9 Liter) Cart Sprayer** 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 **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**.

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

### Calla® 1452 5 Gallon (18.9 Liter) Cart Sprayer Setup (Continued From Page 5)

I.) The table below lists some differences between the **HVLP** spray method and the **5 Gallon (18.9 Liter) Cart Sprayer** 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

### 5.) Electro-Static Spray Gun Setup

- 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.

Electro-Static Spray Gun



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
- \* 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**

			Mop	Wiping Devices	Bulk Application Equipment		
			Pails	Other Containers	Spraying Equipment	Buckets	
Labeling Devices	Labels	Mixing Devices	Diluting Equipment		Brushing Devices	Protective Clothing	Scrubbing 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](mailto:zipchem@addevmaterials.com).