

Safety Steps and Procedures To Follow Prior To Applying Calla® 804:

Always refer to the **safety data sheet (SDS)**, **technical data sheet (TDS)**, and **label** prior to applying **Calla® 804** if you have any about this product.

Always wear gloves, protective clothing, and protective eyewear to prevent **Calla® 804** from making contact with the skin and eyes.

Always have adequate lighting available to see where Calla® 804 is being applied and to inspect areas for contamination and rework prior to applying this material.

Calla® 804 Product Information and Benefits:

Calla® 804 is a water dilutable and biodegradable cleaner with a neutral pH that is designed for use on aircraft substrates, has an aqueous formula, and is the primary cleaner for the exterior washing of aircraft, missiles, engines, and support equipment (SE) because it is an excellent cleaner for removing light to medium soils (greases, oils, grime, etc.) from almost all surfaces.

Calla® 804 contains a low toxicity level, low odor, does not have a flash point, and contains no solvents

Calla® 804 is available in **ready to use packaging** and as a concentrate and aerosol and is a great replacement for traditional cleaners.

Calla® 804 is capable of **heavy-duty cleaning**, has a great cleaning efficiency, and removes heavy deposits of grease, oil, hydraulic fluid, and carbon.

Calla® 804 holds oils and greases in solution for a limited time and then releases them from the solution after the effluent is in the water/oil separator to provide a more complete release of the greases and oils from the aqueous components in the separator.

Calla® 804 is a good general cleaner for the removal of dirt, grime, light oils, and hydraulic fluid and can be used in confined areas, such as cockpits, cabins, bilges, and equipment bays as it contains no solvents.

Areas Where Calla® 804 Should Be Applied On:

Use **Calla® 804** for **light to heavy duty cleaning** of aerospace equipment, such as aircraft, ground equipment, missiles, AGE engines and other engines, and support equipment. **Calla® 804**, is not intended for and shall not be used on transparent plastic aircraft canopies and windows.

Procedures For Diluting and Applying Calla® 804:

Depending on the type of soils involved, **Calla® 804** may be used in various dilutions as substitutes for solvents in **hand wipe cleaning** of greasy and oily areas. Apply **Calla® 804** from a **pump spray bottle** followed by **drying** with a **clean, lint free cloth**. When applied from a **pump spray bottle** at the **most dilute mixture recommended**, **Calla® 804** is an excellent cleaners for lightly soiled surfaces in aircraft cabins and cockpits, such as non-transparent plastic parts and instrument glass covers.

For moderate soils (hydraulic fluids, lube soils, light preservatives), heavy soils (carbonized oil, aged preservatives, grease, gun blast, and exhaust deposits), **dilute 1 part Calla® 804 in 4 parts water**. Apply **Calla® 804** with a **foam generator, spray, sponge, soft brush, or cloth**. **Scrub** and then **rinse with fresh water** and **dry**.

For stubborn soil on gloss painted aircraft (scuff marks, exhaust, etc.), **dilute 1 part Calla® 804 in 4 parts water or leave Calla® 804 undiluted**. Apply **Calla® 804** with a **damp cloth**. **Rub** with a **circular motion, rinse thoroughly**, then **dry**. Do not allow **Calla® 804** to **dry** on surfaces or **rinseing** may be difficult.

For stubborn soil on low gloss/flat and/or camouflage paint scheme aircraft (scuff marks, exhaust, etc.), apply **Calla® 804 undiluted** with a **nonabrasive cleaning pad**. Allow **1 to 3 minutes dwell time**. **Rub** with a **circular motion, rinse thoroughly**, then **dry**. Do not allow **Calla® 804** to **dry** on surfaces or **rinseing** may be difficult.

Procedures For Diluting and Applying Calla® 804 (Continued From Page 1):

For unpainted exterior surfaces with gun blast residues and carbonized exhaust residues, apply **Calla® 804 undiluted**. **Wet surface with fresh water** and apply **Calla® 804** and **scrub briskly** with an **A-A-58054, Type I, Grade A or B abrasive mat** or an **equivalent wiper**. **Rinse with fresh water** and **dry**.

For floors and deck with dirt and debris, **dilute Calla® 804 with 1 part Calla® 804 in 9 parts water**. **Remove** loose dirt with **vacuum cleaner**. **Wipe with Calla® 804** and **rinse with fresh water**.

For the radome and equipment compartment (interior) with dust, dirt, oil, and debris, **dilute Calla® 804 with 1 part Calla® 804 in 16 parts water**. **Remove** loose dirt with a **vacuum cleaner**. **Wipe** fiberglass and other surfaces with a **cloth wet with Calla® 804** and **rinse with cloth wet with fresh water**. **Dry** with a **clean cloth**.

For the cockpit interior with dust, dirt, mud, and light debris, **dilute Calla® 804 with 1 part Calla® 804 in 9 parts water** and use a **cloth** and **flannel**. **Remove** loose dirt with a **vacuum cleaner**. **Loosen** any accumulations of mud on control pedals, floors, or other cockpit equipment with **brush** and **remove** with **vacuum cleaner**. **Wipe with cloth wet with Calla® 804** and follow with a **cloth wet with fresh water**. **Wipe** fiberglass and other surfaces with a **cloth wet with Calla® 804** and **rinse with cloth wet with fresh water**. **Dry** with a **clean cloth**.

For environmental control ducting with light debris, dust, and grime, **dilute Calla® 804 with 1 part Calla® 804 in 9 parts water**, and refer to applicable maintenance manuals.

For acrylic plastic parts (except canopies and windows) with light soil and smudges, **dilute Calla® 804 with 1 part Calla® 804 in 16 parts water** and use a **cloth** and **flannel**. **Wipe with cloth wet with Calla® 804** and follow with a **cloth wet with fresh water**. **Dry** with a **clean cloth**.

for elastomeric seals with dust, dirt, oil, and grime, **dilute Calla® 804 with 1 part Calla® 804 in 9 parts water** and use a **cotton cheesecloth (unbleached) cleaning cloth (low lint) white cleaning cloth**. **Wipe with cloth wet with cleaning solution** and **rinse with a cloth wet with fresh water**. **Dry** with a **clean cloth**.

For fabric parts, sound-proofing, and upholstery with light soil and oil spots, **dilute Calla® 804 with 1 part Calla® 804 in 4 parts water**. **Remove** loose dirt with a **vacuum cleaner**. **Apply soap solution** with **sponge** and **scrub briskly**. **Rinse** with a **clean, dampened rag** or **sponge** using **clean, fresh water**. Allow area to **dry** and **raise nap** by **brushing**.

For helicopter and propeller blades with grime, oil, grease, and exhaust stains, **dilute Calla® 804 with 1 part Calla® 804 in 9 parts water**. **Apply Calla® 804** with a **cleaning pad** or **brush** and **agitate**. **Rinse with fresh water** and **wipe dry**.

For helicopter rescue slings with salt and salt water, **dilute Calla® 804 with 1 part Calla® 804 in 9 parts water**. **Rinse with fresh water**. **Apply Calla® 804** with **sponge** or **clean cloth**. **Rinse** thoroughly with **fresh water**. **Blow dry** with **clean, compressed air** or **suspend** and allow to **dry**. If **suspended to dry**, ensure water will drain away from the buckle.

For gas turbine engine exterior, engine bay, and engine bay doors with oxidized oil, dust, carbon, and salt deposits, **dilute Calla® 804 with 1 part Calla® 804 in 4 parts water**. **Apply Calla® 804** with a **brush**. **Scrub**, then **rinse with fresh water**.

For bilge areas with hydraulic fluid, water, dirt, and metallic debris, **dilute Calla® 804 with 1 part Calla® 804 in 9 parts water**. **Vacuum** clean liquids and debris. **Wipe** area with a **sponge dampened in cleaning solution**. **Rinse** by **sponging with fresh water**. **Wipe dry** with a **clean cloth**. For bilge areas with algae contamination, **dilute Calla® 804 with 1 part Calla® 804 in 4 parts water**. **Mix Calla® 804** and water in a **pump spray bottle**. **Spray** mixture on contaminated area and allow it to **dwell** at least **2 minutes**. **Wipe off** with a **sponge** and **dry** with a **clean cloth**.

Spray Procedures For Applying Calla® 804:

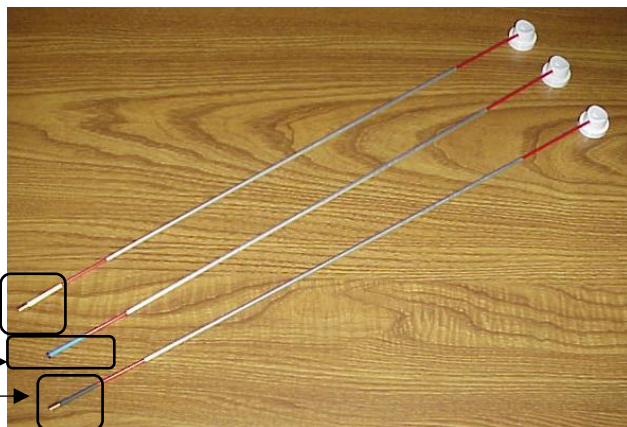
The following equipment can be used to apply **Calla® 804**.

- *Aerosol
- ***Formit®** Extension Wands-For use with all **Zip-Chem®** aerosols to reach difficult to access areas, such as stinger edges.
- ***Zip-Chem® Aerosol Trigger Sprayer** that is designed for use with any **Zip-Chem®** aerosol can
- *Airless Spray Equipment
- *Air Assisted Spray Equipment
- *Spray Bottles

***Formit®** 360° Spray (White Tube) Wand

***Formit®** Fan Spray Spray (Blue Tube) Wand

***Formit®** 180° Spray (Black Tube) Wands



Formit® 360° Spray Demonstration Video



Formit® Fan Spray Demonstration Video



Formit® 180° Spray Demonstration Video



Zip-Chem® Aerosol Trigger Sprayer



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Spray Procedures For Applying Calla® 804 (Continued From Page 3):

Airless Spray Setup

- A.) Determine the tip size for the gun. The recommended tip size for the gun should be **1.0 mm to 1.5 mm**.
- B.) For **pressure settings**, use the **lowest pressure** possible so that **Calla® 804** 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** to the gun until the **fan spray pattern** of **Calla® 804** 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® 804**, then the **pressure** of the **airless spray gun** is **too high**. None of these observations should occur because thin materials like **Calla® 804** 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® 804** at a distance closer than **12"**, then there will be a heavy buildup of **Calla® 804**, tiger stripping of material from the surface where the **Calla® 804** was applied, and a variation in the gloss of the **Calla® 804**.
- G.) Consider the passing speed of **Calla® 804** because the output of **Calla® 804** 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® 804** should be spray applied as a **smooth continual pass** with a **50% overlap**.

Airless Spray Equipment



Air Assisted Spray Gun Setup

- A.) Determine the tip size for the gun. The recommended tip size for the gun should be **1.0 mm to 1.5 mm**.
- B.) For **pressure settings**, use the **lowest pressure** possible so that **Calla® 804** can be spray applied as a **clean fan** with the width of the spray being shaped like a **fan**.
- C.) Slowly increase the **pressure** to the gun until the **fan spray pattern** of **Calla® 804** 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® 804**, then the **pressure** of the **air assisted spray gun** is **too high**. None of these observations should occur because **thin materials** like **Calla® 804** 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

Air Assisted Spray Gun



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Spray Procedures For Applying Calla® 804 (Continued From Page 4):

Air Assisted Spray Gun Setup (Continued From Page 4)

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® 804** at a distance closer than **12"**, then there will be a heavy buildup of **Calla® 804**, tiger stripping of material from the surface where the **Calla® 804** was applied, and a variation in the gloss of the **Calla® 804**.

G.) Consider the passing speed of **Calla® 804** because the output of **Calla® 804** 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® 804** should be spray applied as a **smooth continual pass** with a **50% overlap**.

Pump Spray Bottles

For applying **Calla® 804** via **pump spray bottles**, spray **Calla® 804** on the surface that it is intended to be applied on. Please reach out to a **Zip-Chem®** application expert for tips on how to properly apply **Calla® 804** from the **spray bottle** to the surface that it is intended to be applied on.

Other Application Methods

For tips on how to apply **Calla® 804** beyond the **spray bottle**, **aerosol**, **airless equipment**, and **air assisted** application methods, please reach out to a **Zip-Chem®** application expert for tips on how to properly apply **Calla® 804** with a method that is not listed in this manual.

Calla® 804 Product Pictures and Zip-Chem® Product Packaging Part Numbers:

Calla® 804

Ready-To-Use Diluted 4:1

*24 fl oz (710 mL) Spray Bottles-**010196**

*16 fl oz (473 mL) Aerosol-**008689**

Concentrate

*Case of 4 each Gallon (4 each of 6.8 Liter Cans-**009447**

*5 Gallon (18.9 Liter) Pail-**007029**

*55 Gallon (208 Liter) Pail-**102610**

*Special Packaging Upon Request

Zip-Chem® Aerosol Trigger Sprayer

***010040**

Gloves | Eyewear | Spray Equipment | Cloth and Rag

Foam Generator | Sponge | Abrasive Mat | Cheesecloth

Spill containment vessels and other proper devices for collecting material overruns

Formit® Wands (12 Assemblies Per Package)

*Formit®-18-Fan-006224

*Formit®-18-180-006226

*Formit®-18-360-006227

*Formit®-18-STD-FOG-008352

*Formit®-18-90-FOG-008353

*Formit®-29-360-101321

*Formit®-36-360-009131

*Formit®-48-360 with metal sleeve-**009132**

*Formit®-48-360 without metal sleeve-**100424**

*Formit®-48-Fan-008460

*Formit® Sample Pack (3 each of Formit®-18-Fan, Formit®-18-180, Formit®-18-360, Formit®-18-STD-FOG-100107)

Protective Clothing | Flanel | Diluting Equipment | Cleaning Pad

Vacuum Cleaner | Lighting Equipment | Proper Brushes



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Calla® 804 Product Pictures and Zip-Chem® Product Packaging Part Numbers (Continued From Page 5):



← 24 fl oz (710 mL)
Spray Bottle



← 16 fl oz (473 mL) Aerosol

Additional Calla® 804 NSN: 6850-01-583-3031 (5 Gallon (18.9 Liter) Pail)

Formit® NSN's: 4730-01-612-9914, 4730-01-661-8773 (**Formit®-18-Fan**); 6850-01-492-2942 (**Formit®-18-360**);
4730-01-632-0156 (**Formit®-18-STD-FOG**); 1560-01-658-8943 (**with metal sleeve**) (**Formit®-48-360**);
4730-01-659-5461 (**without metal sleeve**) (**Formit®-48-360**); 4730-01-632-0157 (**Formit®-48-Fan**)

For application questions regarding **Calla® 804**, contact **Zip-Chem® Aviation Products** at (1) 408 782 2335 or zipchem@addevmaterials.com.