

# Aerospace Cleaning Products



# Advanced Products For Advanced Cleaning

**Total Solution.** Petroferm offers manufacturers, MROs and airlines the most complete range of approved cleaning products in the market. From manual cleaning to sophisticated parts washing, Petroferm's sales and technical professionals are trained to help customers select, evaluate and implement the most appropriate products and processes. What's more, by working with top cleaning equipment manufacturers, we can present a turnkey approach that addresses requirements for both throughput and cleanliness.

**Trusted Brands For High Reliability Cleaning.** For more than 25 years, Petroferm has supplied cleaning products engineered to meet the aerospace industry's performance and compatibility requirements. Brands such as AXAREL®, BIOACT®, CleanSafe™ and LENIUM® have been trusted and approved by leading manufacturers and repair facilities in over 30 countries worldwide.

**Safety, Health & Environmental Responsibility** are cornerstones of both our products and work practices. From reducing VOC emissions to eliminating exposures to improving fire risk, we have extensive experience helping customers find suitable replacements for acetone, IPA, MEK, MPK, mineral spirits, TCE (US EPA ruled carcinogen), PERC, methylene chloride, HCFCs and other hazardous solvents. Contact us today to learn how we can address your solvent substitution initiatives.



## AIRFRAMES

Designed for interior and exterior aircraft structures, Petroferm cleaners are commonly used during manufacture, assembly and heavy maintenance checks. Products range from general purpose cleaners to cleaners for composites, insulation blankets and honeycomb structures.



Product	
<b>BIOACT 108</b>	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner. Replaces acetone, MEK, MPK and other hazardous solvents</li> <li>• Approved for aircraft components, structures, insulation blanket materials</li> <li>• Suitable for general clean-up and surface preparations such as bonding, sealing, painting</li> <li>• Removes adhesive residues, corrosion inhibiting compounds (CICs), hydraulic fluids, greases, oils, sealants, silicones, waxes</li> </ul>
<b>CleanSafe 787C</b>	<ul style="list-style-type: none"> <li>• Aqueous cleaner engineered for spray washers, agitated tank systems, exterior aircraft surfaces</li> <li>• Non-foaming formulation. Allows operators to optimize agitation, reduce cycle times</li> <li>• Safe on metals, composites, faying surfaces</li> </ul>
<b>LENIUM FHD</b>	<ul style="list-style-type: none"> <li>• Fluorinated-based solvent formulated to replace TCE, PERC, nPB, HCFCs in vapor degreasing equipment</li> <li>• Non-flammable, non-ozone depleting, low toxicity</li> <li>• Used as a manual cleaner in operations requiring very fast evaporation</li> </ul>
<b>LENIUM GS</b>	<ul style="list-style-type: none"> <li>• nPB-based solvent designed as a drop-in replacement for TCE, PERC, HCFCs in vapor degreasing equipment</li> <li>• Extend solvent life with our high-performance SuperBooster additive</li> <li>• Approved by Bell Helicopter, Boeing, Lockheed Martin</li> </ul>
<b>AXAREL 1000</b>	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner. Replaces acetone, isopropyl alcohol, mineral spirits and other hazardous solvents</li> <li>• Very low odor</li> <li>• Low vapor pressure (&lt;1mm Hg) reduces VOC emissions</li> </ul>
<b>AXAREL 1000 Wipes</b>	<ul style="list-style-type: none"> <li>• AXAREL 1000 in a versatile, economical and easy-to-use package</li> </ul>
<b>RE-ENTRY Prepsolv</b>	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner and adhesive remover</li> <li>• 100% bio-based</li> <li>• Approved for interior and exterior aircraft structures and components</li> </ul>
<b>AXAREL 2000</b>	<ul style="list-style-type: none"> <li>• Very low odor cleaner with flash point above 140°F/60°C</li> <li>• Used for manual and immersion cleaning. Suitable for enclosed hydrocarbon cleaning equipment</li> <li>• Excellent drop-in for mineral spirits, PD-680 solvents</li> </ul>
<b>AXAREL 56</b>	<ul style="list-style-type: none"> <li>• Water-rinsable solvent designed to remove heavy greases</li> <li>• High soil loading</li> <li>• Approved for cleaning, degreasing anti-friction bearings</li> </ul>

## ENGINES

Chosen for their exceptional performance, materials compatibility and low surface residue, Petroferm cleaners are used throughout the manufacture and overhaul of aircraft engines and auxiliary power units (APUs). These solutions have been tested and approved by leading engine OEMs including CFM International, GE Aviation, Pratt & Whitney and Rolls-Royce.



Product	
<b>BIOACT 105</b>	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner. Replaces acetone, isopropyl alcohol, MEK, MPK and other hazardous solvents</li> <li>• Approved by leading engine OEMs</li> <li>• Suitable for general clean-up and surface preparations such as bonding, sealing, painting</li> <li>• Removes difficult soils such as adhesive residues, greases, oils, lubricants, silicones, waxes</li> </ul>
<b>BIOACT 105 Wipes</b>	<ul style="list-style-type: none"> <li>• BIOACT 105 in a versatile, economical and easy-to-use package</li> </ul>
<b>CleanSafe 787C</b>	<ul style="list-style-type: none"> <li>• Aqueous cleaner engineered for spray washers and agitated tank systems</li> <li>• Non-foaming formulation. Allows operators to optimize agitation, reduce cycle times</li> <li>• Safe on composites and metals including a wide range of magnesium and titanium alloys</li> </ul>
<b>BIOACT 280 BIOACT 280E</b>	<ul style="list-style-type: none"> <li>• Bio-based dewaxing solvent. Replaces hazardous solvents including TCE, PERC, petroleum derivatives</li> <li>• Effectively removes fixturing and plating wax including Petroferm's AEROWAX MT</li> <li>• Industry's longest bath life. 18-24 months</li> <li>• Used by leading engine OEMs and MROs</li> </ul>
<b>AEROWAX MT</b>	<ul style="list-style-type: none"> <li>• Red masking wax used for selective plating operations</li> <li>• Excellent adhesion, flexibility, visibility</li> <li>• Easily removed by Petroferm's BIOACT 280 series</li> </ul>
<b>AXAREL 1000</b>	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner. Replaces acetone, isopropyl alcohol, mineral spirits and other hazardous solvents</li> <li>• Very low odor</li> <li>• Designed for general clean-up and surface preparations including bonding, sealing, painting</li> <li>• Low vapor pressure (&lt;1mm Hg) reduces VOC emissions</li> </ul>
<b>AXAREL 1000 Wipes</b>	<ul style="list-style-type: none"> <li>• AXAREL 1000 in a versatile, economical and easy-to-use package</li> </ul>
<b>AXAREL 2000</b>	<ul style="list-style-type: none"> <li>• Very low odor cleaner with flash point above 140°F/60°C</li> <li>• Used for manual and immersion cleaning. Suitable for enclosed hydrocarbon cleaning equipment</li> <li>• Excellent drop-in for mineral spirits, PD-680 solvents</li> </ul>
<b>LENIUM FHD</b>	<ul style="list-style-type: none"> <li>• Fluorinated-based solvent formulated to replace TCE, PERC, nPB, HCFCs in vapor degreasing equipment</li> <li>• Non-flammable, non-ozone depleting, low toxicity</li> <li>• Used as a manual cleaner in operations requiring very fast evaporation</li> </ul>
<b>AXAREL 56</b>	<ul style="list-style-type: none"> <li>• Water-rinsable solvent designed to remove heavy greases</li> <li>• High soil loading</li> <li>• Approved for cleaning, degreasing anti-friction bearings</li> </ul>

## LANDING GEARS

From teardown to final assembly, Petroferm offers a complete range of formulated cleaning products for landing gear components and assemblies. These products are designed to remove a wide range of soils such as carbon, greases, hydraulic and metalworking fluids, oils, particulate and plating waxes.



Product	
<b>CleanSafe 787C</b>	<ul style="list-style-type: none"> <li>• Aqueous cleaner engineered for spray washers and agitated tank systems</li> <li>• Non-foaming formulation. Allows operators to optimize agitation, reduce cycle times</li> <li>• Safe on metals, composites, faying surfaces</li> </ul>
<b>BIOACT 280 BIOACT 280E</b>	<ul style="list-style-type: none"> <li>• Bio-based dewaxing solvent. Replaces hazardous solvents including TCE, PERC, petroleum derivatives</li> <li>• Effectively removes fixturing and plating wax including Petroferm's AEROWAX MT</li> <li>• Industry's longest bath life. 18-24 months</li> <li>• Used by leading landing gear OEMs and MROs</li> </ul>
<b>AEROWAX MT</b>	<ul style="list-style-type: none"> <li>• Red masking wax used for selective plating operations</li> <li>• Excellent adhesion, flexibility, visibility</li> <li>• Easily removed by Petroferm's BIOACT 280 series</li> </ul>
<b>LENIUM GS</b>	<ul style="list-style-type: none"> <li>• nPB-based solvent designed as a drop-in replacement for TCE, PERC, HCFCs in vapor degreasing equipment</li> <li>• Extend solvent life with our high-performance SuperBooster additive</li> <li>• Approved by Bell Helicopter, Boeing, Lockheed Martin</li> </ul>
<b>LENIUM FHD</b>	<ul style="list-style-type: none"> <li>• Fluorinated-based solvent formulated to replace TCE, PERC, nPB, HCFCs in vapor degreasing equipment</li> <li>• Non-flammable, non-ozone depleting, low toxicity</li> <li>• Used as a manual cleaner in operations requiring very fast evaporation</li> </ul>
<b>AXAREL 56</b>	<ul style="list-style-type: none"> <li>• Water-rinsable solvent designed to remove heavy greases</li> <li>• High soil loading</li> </ul>
<b>RE-ENTRY Prepsolv</b>	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner and adhesive remover</li> <li>• 100% bio-based</li> </ul>
<b>AXAREL 1000</b>	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner. Replaces acetone, isopropyl alcohol, mineral spirits and other hazardous solvents</li> <li>• Very low odor</li> <li>• Low vapor pressure (&lt;1mm Hg) reduces VOC emissions</li> </ul>
<b>AXAREL 1000 Wipes</b>	<ul style="list-style-type: none"> <li>• AXAREL 1000 in a versatile, economical and easy-to-use package</li> </ul>
<b>AXAREL 2000</b>	<ul style="list-style-type: none"> <li>• Very low odor cleaner with flash point above 140°F/60°C</li> <li>• Used for manual and immersion cleaning</li> <li>• Excellent drop-in for mineral spirits, PD-680 solvents</li> </ul>

## COMPONENTS

Petroferm supports the diverse cleaning challenges of component manufacturers and MRO backshops. Our cleaning products are used during the manufacture, repair and overhaul of wheels and brakes, oxygen breathing systems, A/C components, flight and crew seats, hydraulic equipment and flight control systems.



Product	
CleanSafe 787C	<ul style="list-style-type: none"> <li>• Aqueous cleaner safe on composites and metals</li> <li>• Suitable for cleaning wheels, brakes and other components</li> <li>• Non-foaming formulation. Allows operators to optimize agitation, reduce cycle times</li> </ul>
RE-ENTRY Prepsolv	<ul style="list-style-type: none"> <li>• Bio-based adhesive remover</li> <li>• Used in refurbishment of cabin interiors</li> <li>• Fast drying</li> </ul>
LENIUM G5	<ul style="list-style-type: none"> <li>• nPB-based solvent approved to clean breathing oxygen system components</li> <li>• Drop-in replacement for TCE, PERC, HCFCs in vapor degreasing equipment</li> <li>• Safe for use on aerospace alloys</li> <li>• Extend solvent life with our high-performance SuperBooster additive</li> </ul>
AXAREL 56	<ul style="list-style-type: none"> <li>• Water-rinsable solvent approved for cleaning anti-friction bearings</li> <li>• Removes heavy greases, lubricants, oils</li> <li>• High soil loading</li> </ul>
BIOACT 105	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner. Replaces acetone, isopropyl alcohol, MEK, MPK and other hazardous solvents</li> <li>• Removes difficult soils such as adhesive residues, greases, oils, lubricants, silicones, waxes</li> <li>• Available in liquid and wipes</li> </ul>
LENIUM FHD	<ul style="list-style-type: none"> <li>• Fluorinated-based solvent formulated to replace TCE, PERC, nPB, HCFCs in vapor degreasing equipment</li> <li>• Non-flammable, non-ozone depleting, low toxicity</li> <li>• Used as a manual cleaner in operations requiring very fast evaporation</li> </ul>
AXAREL 1000	<ul style="list-style-type: none"> <li>• Fast drying manual cleaner. Replaces acetone, isopropyl alcohol, mineral spirits and other hazardous solvents</li> <li>• Very low odor</li> <li>• Designed for general clean-up and surface preparations including bonding, sealing, painting</li> <li>• Low vapor pressure (&lt;1mm Hg) reduces VOC emissions</li> </ul>
AXAREL 1000 Wipes	<ul style="list-style-type: none"> <li>• AXAREL 1000 in a versatile, economical and easy-to-use package</li> </ul>
AXAREL 2000	<ul style="list-style-type: none"> <li>• Very low odor cleaner with flash point above 140°F/60°C</li> <li>• Used for manual and immersion cleaning</li> <li>• Excellent drop-in for mineral spirits, PD-680 solvents</li> </ul>

## MILITARY AND DEFENSE

Petroferm offers a series of qualified cleaners for use on aircraft structures and components as well as ground support equipment, weapon systems and small and large arms.



Product	
<b>AXAREL 1000</b>	<ul style="list-style-type: none"> <li>MIL-PRF-680 Type I solvent. Fast dry times, low odor</li> </ul>
<b>AXAREL 2000</b>	<ul style="list-style-type: none"> <li>MIL-PRF-680 Type II solvent. Replaces mineral spirits, PD-680 solvents</li> </ul>
<b>AXAREL 3000</b>	<ul style="list-style-type: none"> <li>MIL-PRF-680 Type III solvent. High flash point degreaser with corrosion protection</li> </ul>
<b>AXAREL 4000</b>	<ul style="list-style-type: none"> <li>MIL-PRF-680 Type IV solvent. Excellent solvency, moderate dry times</li> </ul>
<b>LENIUM FHD</b>	<ul style="list-style-type: none"> <li>Fluorinated-based solvent formulated to replace TCE, PERC, nPB, HCFCs in vapor degreasing equipment</li> <li>Non-flammable, non-ozone depleting, low toxicity</li> <li>Used as a manual cleaner in operations requiring very fast evaporation</li> </ul>
<b>LENIUM GS</b>	<ul style="list-style-type: none"> <li>nPB-based solvent designed as a drop-in replacement for TCE, PERC, HCFCs in vapor degreasing equipment</li> <li>Extend solvent life with our high-performance SuperBooster additive</li> <li>Approved by Bell Helicopter, Boeing, Lockheed Martin</li> </ul>

## AVIONICS

Petroferm offers a full range of specialty cleaning products formulated to support high-reliability circuit board assembly and repair or rework.



Product	
<b>BIOACT EC-88</b>	<ul style="list-style-type: none"> <li>Inline defluxer designed for high throughput</li> <li>Exceptionally long bath life</li> <li>Requires no anti-foaming agents or other additives to maintain performance</li> <li>Superior residue removal while protecting surface finishes</li> </ul>
<b>BIOACT EC-78</b>	<ul style="list-style-type: none"> <li>Batch defluxer designed for high temperatures and extended wash cycles</li> <li>Requires no anti-foaming agents or other additives to maintain performance</li> </ul>
<b>BIOACT EC-7M</b>	<ul style="list-style-type: none"> <li>Manual defluxer designed to replace isopropyl alcohol</li> <li>100% biobased</li> <li>Eliminates white residue</li> </ul>



**Petroferm products are used to clean a wide range of components and assemblies.**

- Engines and auxiliary power units
- Landing gears, wheels and brakes
- Aircraft exterior and interior surfaces
- Flight control surfaces
- Avionics and electrical components
- Breathing system components
- Rocket motor components
- Weapon systems and small arms
- Ground support equipment
- Honeycomb structures
- Composite structures
- Hydraulic line assemblies

**Petroferm cleaning products are used in the following applications.**

- General purpose clean-up
- Teardown and assembly
- Removal of greases, hydraulic fluids, lubricants, oils
- Removal of masking and fixturing waxes
- Removal of buffing and polishing compounds
- Removal of corrosion inhibiting compounds (CICs)
- Removal of adhesive residues
- Cleaning prior to nondestructive testing
- Cleaning prior to bonding, sealing, painting
- Cleaning prior to welding

**Petroferm cleaning products are approved by the following companies.**

- Airbus
- Bell Helicopter
- The Boeing Company
- Bombardier
- CFM International
- Engine Alliance
- Eurocopter
- GE Aviation
- Goodrich Corporation
- International Aero Engines
- Honeywell Aerospace
- Lockheed Martin
- Messier-Bugatti-Dowty
- Pratt & Whitney
- Praxair
- Rolls-Royce
- Safran
- Sikorsky Aircraft
- Scott Aviation
- Spirit AeroSystems
- Turbomeca
- United Airlines
- US Department of Defense

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