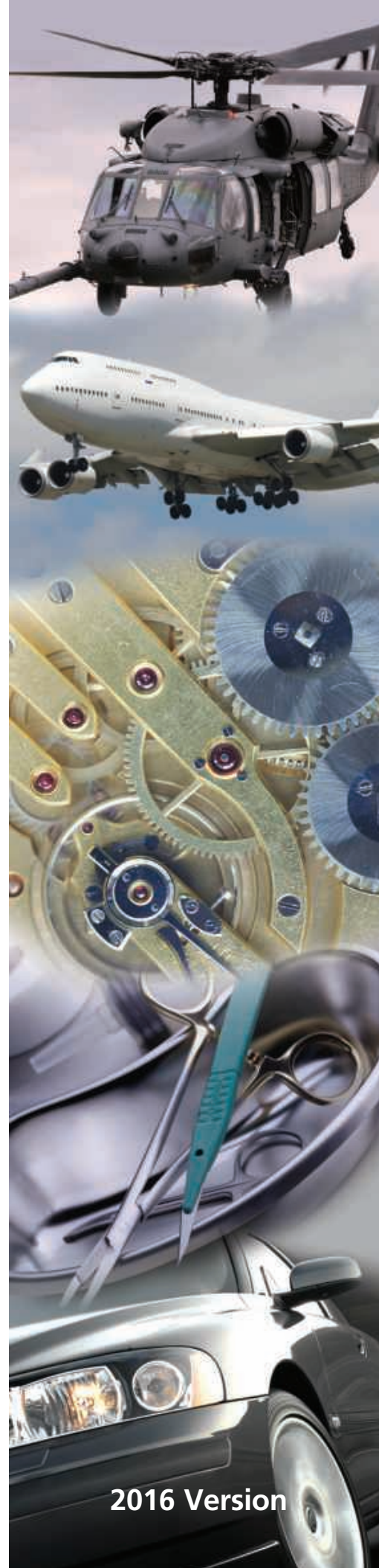


# High Reliability Metal Cleaning Products

 Vantage






2016 Version

**MANUAL CLEANERS** are designed to replace acetone, IPA, MEK, MPK, mineral spirits, Stoddard solvent and other hazardous solvents. In addition to offering enhanced cleaning performance, these products offer controlled evaporation rates and higher flash points resulting in reduced total VOC emissions as well as lower fire risks.

Product	Features
<b>AXAREL 1000</b> 	<ul style="list-style-type: none"> <li>• Approved MIL-PRF-680 Type I Solvent</li> <li>• Flash Point 127 °F (53 °C)</li> <li>• Approved by Airbus, Boeing, Honeywell Aerospace, Lockheed Martin, Pratt &amp; Whitney, United Airlines</li> </ul>
<b>AXAREL 2000</b> 	<ul style="list-style-type: none"> <li>• Approved MIL-PRF-680 Type II Solvent</li> <li>• Flash Point 144 °F (62 °C)</li> <li>• Approved by Airbus, Boeing, Goodrich, Honeywell, Lockheed Martin, Messier-Bugatti, Pratt &amp; Whitney</li> </ul>
<b>AXAREL 3000</b> 	<ul style="list-style-type: none"> <li>• Approved MIL-PRF-680 Type III Solvent</li> <li>• Flash Point 205 °F (96 °C)</li> <li>• Approved by Airbus, Boeing, Eurocopter, Goodrich, Honeywell, Lockheed Martin, Messier-Bugatti, Pratt &amp; Whitney</li> </ul>
<b>AXAREL 4000</b> 	<ul style="list-style-type: none"> <li>• Approved MIL-PRF-680 Type IV Solvent</li> <li>• Flash Point 147 °F (64 °C)</li> <li>• Approved by Airbus, Honeywell, Lockheed Martin</li> </ul>
<b>BIOACT 105</b> 	<ul style="list-style-type: none"> <li>• Removes adhesive residues, greases, oils lubricants, silicones and waxes</li> <li>• Flash Point 105 °F (41 °C)</li> <li>• Approved by Bell Helicopter, Bombardier, CFM, General Electric, Gulfstream Aerospace, Honeywell, Pratt &amp; Whitney, Rolls-Royce, United Airlines</li> </ul>
<b>BIOACT 108</b> 	<ul style="list-style-type: none"> <li>• USDA certified biobased cleaner</li> <li>• Unrivaled removal of CICs and temporary protective coatings (TPCs)</li> <li>• Superior general purpose cleaner</li> <li>• Flash Point 120 °F (49 °C)</li> <li>• Approved by Airbus and Boeing</li> </ul>
<b>RE-ENTRY Prepsolv</b> 	<ul style="list-style-type: none"> <li>• USDA certified biobased cleaner</li> <li>• Removes adhesive residues, CICs, hydraulic fluids, greases, oils sealants, silicones and waxes</li> <li>• Flash Point 122 °F (50 °C)</li> <li>• Approved by Airbus and Boeing</li> </ul>
<b>BIOACT VSO</b>	<ul style="list-style-type: none"> <li>• Dissolves support wax used in 3D model making</li> <li>• Flash Point 215 °F (102 °C)</li> <li>• Approved by SolidScape</li> </ul>

**SPECIALTY IMMERSION SOLVENT CLEANERS** are designed to be used undiluted, followed by DI water rinsing. These cleaners are used in immersion and ultrasonic cleaning processes as well as in inerted spray-in-air systems. They offer the longest bath life in the marketplace.

Product	Features
<b>BIOACT 280</b> 	<ul style="list-style-type: none"> <li>• USDA certified biobased cleaner</li> <li>• Superior removal of paraffinic, microcrystalline plating and thermoplastic fixturing waxes as well as buffing compounds</li> <li>• Typical bath life is 12 to 24 months</li> <li>• Flash Point 285 °F (141 °C)</li> <li>• Approved by General Electric, Honeywell, IAE, Pratt &amp; Whitney</li> </ul>
<b>BIOACT 280E</b> 	<ul style="list-style-type: none"> <li>• USDA certified biobased cleaner that meets European environmental directives</li> <li>• Superior removal of paraffinic, microcrystalline plating and thermoplastic fixturing waxes as well as buffing compounds</li> <li>• Typical bath life is 12 to 24 months</li> <li>• Flash Point 285 °F (141 °C)</li> <li>• Approved by CFM, General Electric, Honeywell, IAE, Pratt &amp; Whitney, Rolls-Royce</li> </ul>
<b>AXAREL 56</b> 	<ul style="list-style-type: none"> <li>• Hydrocarbon based cleaner that removes heavy greases and buffing compounds</li> <li>• Typical bath life is 9 to 18 months</li> <li>• Flash Point 205 °F (96 °C)</li> <li>• Approved by Boeing, General Electric, Hawker Pacific and Messier-Dowty</li> </ul>

**MASKING WAX** is an alternative to traditional paraffinic waxes commonly used in the plating and aerospace industry. This highly refined wax is designed for complex component masking in selective plating operations.

Product	Features
<b>AEROWAX™ HT</b>	<ul style="list-style-type: none"> <li>• Melting point range 180-190 °F (82-88 °C)</li> <li>• Excellent adhesion, flexibility and resistance to cracking</li> <li>• Easily removed with Petroferm's BIOACT 280 series semi-aqueous cleaners</li> </ul>

 Indicates an aerospace approved and certified product

**AQUEOUS CLEANERS** are designed to be used in spray, immersion and ultrasonic cleaning processes. These concentrated formulations are designed to be diluted with water prior to use. They remove a wide range of soils and surface contaminants.

Product	Features
<b>CleanSafe 50E Plus</b>	<ul style="list-style-type: none"> <li>Mildly acidic cleaner removes light soils and surface oxides in immersion and ultrasonic processes</li> <li>Brightens and protects copper, brass, bronze and tin</li> </ul>
<b>CleanSafe 585</b>	<ul style="list-style-type: none"> <li>Ultrasonic cleaner removes buffing compounds, coolants, oils and particulates</li> <li>Safe for use on all metals</li> <li>VOC free formulation</li> </ul>
<b>CleanSafe 686</b>	<ul style="list-style-type: none"> <li>Immersion and ultrasonic cleaner removes CICs, drawing and forming compounds</li> <li>Safe for use on most metals</li> <li>VOC free formulation</li> </ul>
<b>CleanSafe 787C</b> ✈️	<ul style="list-style-type: none"> <li>Non-foaming spray cleaner removes CICs, drawing oils, hydraulic fluids, lubricants, etc</li> <li>Safe for use on all metals</li> <li>Certified SCAQMD clean air solvent</li> <li>Approved by Bell Helicopter, Boeing, CFM, Engine Alliance, General Electric, Honeywell, IAE, Messier-Dowty, Pratt &amp; Whitney, Rolls-Royce, Safran, Spirit AeroSystems, United Airlines</li> </ul>
<b>CleanSafe 7200 DTX</b>	<ul style="list-style-type: none"> <li>Non-foaming spray cleaner removes buffing compounds, coolants, hydraulic fluids, lubricants, etc</li> <li>Safe for use on all metals and in mixed metal applications</li> <li>VOC free formulation</li> </ul>
<b>CleanSafe 7448</b>	<ul style="list-style-type: none"> <li>Low foaming spray cleaner removes paraffin oils, lapping compounds, oxides, smut and burned-on-oils</li> <li>Safe for use on steel and titanium alloys</li> <li>Low VOC formulation</li> </ul>
<b>CleanSafe 7449 YHA</b>	<ul style="list-style-type: none"> <li>Low foaming spray cleaner removes paraffin oils, lapping compounds, oxides, smut and burned-on-oils</li> <li>Safe for use on aluminum alloys</li> <li>Low VOC formulation</li> </ul>

**VAPOR DEGREASING SOLVENTS** are designed to be used in open-top and vacuum vapor degreasers. These products are uniquely suited to remove a variety of soils including buffing compounds, drawing oils, greases, hydraulic oils, lapping compounds, resins, inks, silicone oils and waxes.

Product	Features
<b>Halogenated</b>	<b>LENIUM ES</b> ✈️ <ul style="list-style-type: none"> <li>Binary azeotrope of n-propyl bromide (nPB) and IPA</li> <li>Safe for use on all metals including titanium and aluminum alloys</li> <li>Non-flammable</li> <li>Replaces TCE, PCE, MeCl, HCFCs</li> <li>Approved by Goodrich, Lockheed Martin, Safran</li> </ul>
	<b>LENIUM GS</b> ✈️ <ul style="list-style-type: none"> <li>Stabilized n-propyl bromide (nPB)</li> <li>Safe for use on all metals including titanium and aluminum alloys</li> <li>Non-flammable</li> <li>Replaces TCE, PCE, MeCl, HCFCs</li> <li>Approved by Bell Helicopter, Boeing, Scott Aviation, Lockheed Martin, Praxair, Safran</li> </ul>
	<b>LENIUM FHD</b> ✈️ <ul style="list-style-type: none"> <li>Mixture of hydrofluorocarbons (HFCs) and trans-dichloroethylene (TDE)</li> <li>Safe for use on all metals including titanium and aluminum alloys as well as most plastics</li> <li>Non-flammable</li> <li>Replaces TCE, PCE, MeCl, HCFCs, nPB</li> <li>Approved by Boeing, Goodrich, Lockheed Martin, Rolls-Royce</li> </ul>

<b>Non-Halogenated</b>	<b>AXAREL 2000</b> ✈️ <ul style="list-style-type: none"> <li>Approved MIL-PRF-680 Type II Solvent</li> <li>Suitable for vacuum vapor degreasing systems</li> <li>Safe for use on all metals including titanium and aluminum alloys as well as most plastics</li> <li>Flash Point 144 °F (62 °C)</li> <li>Approved by Airbus, Boeing, Goodrich, Honeywell, Lockheed Martin, Messier-Bugatti, Pratt &amp; Whitney</li> </ul>
	<b>BIOACT 145</b> ✈️ <ul style="list-style-type: none"> <li>Unique blend of solvents capable of removing greases, minerals oils, polishing compounds and water-based emulsions</li> <li>Suitable for vacuum vapor degreasing systems</li> <li>Safe for use on all metals including titanium and aluminum alloys as well as most plastics</li> <li>Flash Point 143 °F (62 °C)</li> <li>Approved by Boeing, Douglas Aircraft, GulfStream Aerospace</li> </ul>

## Our products clean a wide range of components and assemblies.

- 3D Rapid prototyping, model making and jewelry
- Aircraft exterior and interior surfaces
- Asphalt and construction
- Automotive and light vehicles
- Breathing system components
- Engines and auxiliary power units
- Flight control surfaces
- Heavy transportation and mining
- Honeycomb and composite structures
- Hydraulic line assemblies
- Landing gears, wheels and brakes
- Medical device implants and surgical instruments
- Rocket motor components
- Weapon systems and small arms

## Our 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

## Our cleaning products are approved by the following companies:

- Airbus
- Bell Helicopter
- The Boeing Company
- Bombardier
- CFM International
- Engine Alliance
- Eurocopter
- General Electric 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

### Vantage Specialties, Inc.

3938 Porett Dr.  
Gurnee, Illinois 60031  
T 800 432 7187 and  
847 244 3410  
F 847 249 6346

[www.vantagegrp.com](http://www.vantagegrp.com)

### Vantage Specialty Chemicals LTD

Centaur House Ancells Business Park  
Ancells Road  
Fleet, Hampshire, GU51 2UJ  
United Kingdom

T +44 (0)1252 761033

F +44 (0)1252 761001

[www.vantagegrp.com](http://www.vantagegrp.com)