



Advanced Products for Advanced Cleaning

High Reliability Electronics Cleaning



Cleaning of Aerospace, Military, and Communications Electronics continues to be a daunting task for today's manufacturers. Fortunately, Petroferm offers a vast variety of advanced cleaning products that have been and continue to be used to meet the demands of these high reliability electronics. These products have been shown to be exceptionally efficient cleaners for:

- Wafer Level Packages and Bumped Wafers
- Ceramic and Ceramic Hybrid Devices
- RF and Microwave Devices
- Flip Chip Packages
- Wire Bonded Devices
- Avionics Circuit Boards

Semi-Aqueous Cleaning

BIOACT® EC-15™ Defluxer is a blend of propylene glycols, esters and surfactants that has a neutral pH. It has a flash point >250°F. It can be used at temperatures up to 180°F if needed for specific, demanding cleaning processes. It has been used in Accel® MicroCel™ centrifugal washers and Accel® MicroLine™ in-line spray-in-air systems employing inert atmospheres; immersion, ultrasonic and various spray under immersion washers. BIOACT EC-15 does not readily separate from water. BIOACT EC-15 is effective in removing eutectic, lead-free, and high temperature fluxes and pastes.

BIOACT® EC-7R™ Defluxer is a blend of highly refined citrus terpenes and esters that has a neutral pH. It has a flash point of 117°F. It is typically used at ambient temperature. It can be used in Accel® MicroCel™ centrifugal washers and Accel® MicroLine™ in-line spray-in-air systems, Austin American Technology EMULSONATOR spray-in air batch washers, immersion and various spray under immersion washers that employ inert atmospheres. It can be separated from the rinse water to completely close loop the rinse system greatly reducing water waste and usage. BIOACT EC-7R is effective removing eutectic and lead free fluxes and pastes. It is the world's most widely used semi-aqueous defluxer.

AXAREL® 32 Defluxer is a blend of highly refined aliphatic hydrocarbons, esters and surfactants. It has a flash point of 205°F. It is EPA/DoD/IPC Phase 2 approved. It can be used at temperatures up to 180°F if needed for specific, demanding cleaning processes. It has been used in Accel® MicroCel™ centrifugal washers and Accel® MicroLine™ in-line spray-in-air systems and Austin American Technology EMULSONATOR spray-in air batch washers employing inert atmospheres; immersion and various spray under immersion washers. It can be separated from the rinse water to completely close loop the rinse system greatly reducing water waste and usage. AXAREL 32 is effective in removing eutectic and lead free fluxes and pastes.

AXAREL, BIOACT and LENIUM are registered trade marks of Petroferm Inc.

EC-15 and EC-7R are trademarks of Petroferm Inc.

Accel is registered trademark of Speedline Technologies.

MicroLine and MicroCel are trademarks of Speedline Technologies.

Vapor Degreasing

LENIUM® ES is a vapor degreasing solvent that is a binary azeotrope of *n*-propyl bromide (NPB) and isopropyl alcohol. It is considered non-flammable and is not a hazardous air pollutant. It offers excellent materials compatibility including aluminum, copper, gold, silver and titanium. It is used in vapor degreasing processes that include immersion, ultrasonic or vapor only cleaning. LENIUM ES is effective in removing flux residues, conformal coatings and manufacturing contaminants.

LENIUM® FEC is an azeotrope of fluorocarbons, chlorocarbons and methanol. It is considered non-flammable. It has "zero" ozone depletion potential and it is not a hazardous air pollutant. It offers excellent materials compatibility including aluminum, copper and iron as well as a number of common plastics and elastomers. It is used in vapor degreasing processes that include immersion, ultrasonics or vapor only cleaning. LENIUM FEC is effective in removing flux residues, pastes and manufacturing contaminants.

Co-Solvent Vapor Degreasing

LENIUM® FRA / Solvating Agent SA-24 This Petroferm patented process is a highly effective vapor degreasing process that utilizes a dual sump vapor degreaser. LENIUM® FRA is a non-flammable, VOC exempt rinsing agent. Solvating Agent SA-24 is a blend of propylene glycols and esters that is a highly effective cleaning agent. This process offers all of the advantages of a typical degreasing process; clean and dry parts requiring no water. This process offers exceptional part/product compatibility for those customers that want to maintain a vapor degreasing process and do not want to use NPB or other expensive fluorinated solvents. The LENIUM FRA/SA-24 Co-Solvent process is effective removing eutectic and lead free fluxes and pastes.



Petroferm Inc.
Registered to ISO 9001:2000
File No: A2894

