



***ProSolv®5408e* a sustainable, economical cleaning solvent for vapour degreasing in the aerospace industries**

The aircraft and aerospace component manufacturing industries face many critical cleaning applications during manufacturing processes and for finishing where surfaces need to be completely degreased leaving no residues. Although aqueous cleaning would seem to be the method of choice for environmental reasons with new advancements in cleaning solvent chemistry this is often not the case. Vapour degreasing is the most effective process, economical in use with lower energy uses, one tank needing less floor space than multi tank water-based systems and safe for users.

*ProSolv®5408e* has been developed to be used in place of the traditional chlorinated hydrocarbon solvents, trichloroethylene and perchloroethylene and those based on n-propyl bromide (nPb) which have been phased out for use as vapour degreasing solvents in the EU. The *ProSolv®5408e* advanced formulation, based on sustainable solvents, has been extensively tested with oils, soils greases and other contaminants from the manufacturing process and with its high KB value all these materials are easily removed to comply with aircraft standards for cleaning and degreasing to the highest levels. No titanium surface cracking or deleterious effects on other metals or composites commonly used for aircraft and aerospace component manufacture have been identified.

The innovative *ProSolv®5408e* formulation produced by Envirotech Europe ticks all the boxes with the perfect profile for vapour degreasing Soft on the environment with near zero ozone depletion potential (ODP) and very low global warming potential (GWP) its lower boiling point at 48C minimises energy requirements giving reduced process times for greater

throughput and comfortably handled critically cleaned parts. The incredibly low surface tension guarantees penetration into micron sized through and blind holes and between close contact surfaces.

Stable in use *ProSolv<sup>®</sup>5408e* is safe for users with a high 8hr occupational exposure level of 220ppm. The solvent needs no additives or stabilisers and requires no testing. Sustainable, safe and secure for future use as your forever solvent.

### **CRITICAL CLEANING FOR THE AIRCRAFT INDUSTRY**

A few examples of the many uses are discussed below, our technical service engineers can offer information and advice on critical cleaning in the multitude of other applications experienced in the precision engineering industries.

### **BONDING OF HONEYCOMB SECTIONS FOR COMPOSITES**

An instance of critical cleaning is removal of all contamination from aluminium honeycomb prior to epoxy resin bonding of the formed aluminium skin to produce lightweight high tensile structures for applications such as leading edges on aircraft wings and wind turbine blades. This is an extremely demanding application, as any residues will prevent the adhesion of the adhesives leading to delamination with potentially disastrous effects.

Due to the high standards of cleaning which are required this process is usually carried out by vapour/liquid degreasing with the traditional chlorinated solvents however due to the increasingly stringent controls on these materials *ProSolv<sup>®</sup>5408e* which is fully tested to aircraft industry standards and with its greatly improved environmental and user profile is now increasingly used as the sustainable and safer replacement.

### **CLEANING FOR CRACK AND FAULT TESTING OF WELDS AND CASTINGS**

Another common use in the aircraft industry is in the cleaning of castings and metal fabrications before the use of NDT crack detection fluids. Removal of all surface contamination from manufacturing processes is vital to expose faults. Vapour degreasing and vapour liquid cleaning with ultrasonics is a favoured method due to the excellent solubility of oils and greases and other soils using one tank with very fast processing and parts emerging completely clean and dry. Crack and fault detection in casting and welds is also important in other industries such as railways, automotive engines, and turbines where castings or critical welded fabrications are used. This is particularly relevant as part of the maintenance procedure for refurbishment of aircraft landing gear where surfaces can be heavily contaminated by hard to remove hydraulic oils, rubber and cement dust and grease.

Because this application needs completely degreased, residue free and dry surfaces, the use of slow drying cleaners such as hydrocarbons or water-based cleaners may cause problems as the cracks need to be dry to allow penetration of the detection fluids. Vapour degreasing

is the most effective cleaning system for all NDT applications as parts emerge dry from the cleaning process. *ProSolv®5408e* conforms to SaE-AMS2664 and E1417 99-1/7-1-1 solvent precleaning standard for Penetrant testing in aerospace applications.

### CRITICAL CLEANING OF OXYGEN AND GAS SYSTEMS

Critical cleaning of oxygen lines and tanks where no organic residues can be tolerated is another ideal use for this new sustainable cleaning solution. *ProSolv®5408e* conforms to CGA, ELIGA and Compressed Gas Association standards for this application. We have a series of guides to using *ProSolv®5408e* for component cleaning to Oxygen standards and recommended cleaning methods involved, available on request.

*ProSolv®5408e* is produced to consistent quality standards worldwide and is available through a network of experienced and qualified suppliers.

### FURTHER INFORMATION

Please visit our website [www.envirotech-europe.com/prosolv5408e](http://www.envirotech-europe.com/prosolv5408e) for information about other uses and applications for *ProSolv®5408e*.

Visit [www.envirotech-europe.com/applications-and-case-studies](http://www.envirotech-europe.com/applications-and-case-studies) for information about uses and applications for all EnviroTech Europe products.

For more advice, please telephone us on +44 (0) 20 8281 6370 or use our website contact form.

All products are supplied and supported by EnviroTech Europe Ltd. Manufactured in the United Kingdom and available on short delivery times through our dedicated team of distributors worldwide.

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