

## PCS Detergent Free Cleaners

### CERTIFICATION SUMMARY

Rev01Feb10-1140

#### **CERTIFICATION STATEMENT**

The series of PCS Detergent Free Cleaners, as formulated by Michael Rochon of Cogent Environmental Solutions, Mansfield, Ontario, and as manufactured by Process Cleaning Solutions Ltd. (PCS), are certified under the *Envirodesic*<sup>™</sup> Certification Program as suitable cleaners where Maximum Indoor Air Quality<sup>™</sup> is preferred and where persons who are hypersensitive to chemical exposures may be present. This certification also covers other forms of packaging of the PCS Detergent Free Cleaning formulas, as manufactured by PCS, whether for private label or for specialty applications such as carpet care, provided that the formulation of the concentrate involved is identical to those of the original PCS Detergent Free Cleaners herein certified, namely PCS General Purpose Cleaner, PCS Heavy Duty Cleaner, PCS Laundry, PCS Bowl and Bath, PCS Calcium Lime & Rust, PCS Non Abrasive Cleanser, PCS Process MicroLaundry, and PCS Process MicroClean.

#### **SCIENTIFIC BASIS FOR CERTIFICATION**

*Envirodesic*<sup>™</sup> certification for PCS Detergent Free Cleaners is based primarily on the fully disclosed ingredient lists provided to *Envirodesic*<sup>™</sup> by Cogent, along with other scientific data and performance studies of PCS Detergent Free Cleaners supplied by Cogent. These materials indicate that there are four primary properties of PCS Detergent Free Cleaners that merit their inclusion under *Envirodesic*<sup>™</sup> Certification:

1. The first property is their benign nature in terms of human health effects, i.e. the lack of toxicity of their ingredients (Oral LD50 = 7.3g/kg, Inhalation LC50 > 4.74 mg/l.) and the products' lack of volatility. Cogent Environmental and PCS are notably advanced as well in terms of full public disclosure of ingredients (sodium chloride, sodium citrate, sodium bicarbonate, sodium carbonate, lactic acid / buffered lactic acid, xanthan gum, Kaopolite and natural food dyes).
2. The second property is their benign nature in terms of environmental impact, characterized by extremely low aquatic toxicity (EC50 = 4100 mg/l). A review of aquatic toxicity by Stantec in 2006 shows that PCS Detergent Free Cleaner ingredients demonstrated a 325 times reduction in aquatic toxicity compared to surfactant based cleaners. The low aquatic toxicity was achieved partially by avoiding the use of any surfactants and other synthetic chemicals; eliminating these is in itself a major innovation in cleaning technology.
3. The third property is their production from naturally occurring inorganic ingredients. The product could theoretically be produced for hundreds of years potentially without causing significant resource depletion or damage. As such, the products qualify as a significant innovation in the field of sustainable cleaning technology, another requirement for *Envirodesic*<sup>™</sup> Certification.
4. Finally, product performance testing at The Toxic Use Reduction Institute (TURI) revealed that PCS Detergent Free Cleaning preparations performed on par with traditional cleaning preparations.

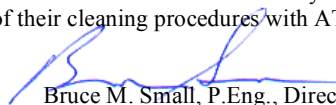
Because there are no perfumes and no volatile ingredients in the formula, we are confident that in situ emission levels from PCS Detergent Free Cleaners are well within the Molhave limit of 0.16 mg/m<sup>3</sup> of total volatile organics being used presently as the upper limit of the benign range for the general population by the *Envirodesic*<sup>™</sup> Certification Program. It is noteworthy that this limit is significantly more stringent than that of other certification or "green-product" programs.

#### **ADDITIONAL SUBJECTIVE INFORMATION REGARDING ENVIRONMENTAL HYPERSENSITIVITY**

Informal feedback from subjective testing of PCS Detergent Free Cleaners by individuals knowledgeable about the effects of extremely low chemical emissions on environmentally hypersensitive individuals indicates that PCS Detergent Free Cleaners are generally suitable for use in installations occupied by and/or designed for environmentally hypersensitive persons, and for use by environmentally hypersensitive persons themselves. Hypersensitive individuals are cautioned to test all cleaners for compatibility with their own personal sensitivities

#### **SUITABILITY FOR USE IN PUBLIC BUILDINGS INCLUDING HEALTH CARE AND EDUCATIONAL INSTITUTIONS**

From a public health point of view, it is our opinion that PCS Detergent Free Cleaners are highly suitable for use in public buildings, including hospitals, nursing homes, schools, government buildings, etc. Our experience indicates that the easiest way to lower indoor air pollution immediately in any building (and to make it more accessible to environmentally hypersensitive individuals) is to convert to low-emission cleaning products. When used with appropriate cleaning processes and materials (e.g. micro fiber cleaning cloths) PCS Detergent Free Cleaners can provide a highly competent first step of cleaning and removal of organic debris that will minimize the need for any further disinfecting of environmental surfaces. The manufacturer encourages users to test the effectiveness of their cleaning procedures with ATP monitoring.



Bruce M. Small, P.Eng., Director  
*Envirodesic*<sup>™</sup> Certification Program

*Envirodesic*<sup>™</sup> Certification is an ongoing process whereby additional data and consumer experience is added to a product file as it becomes available. Persons wishing to ask questions about the certification criteria or the suitability of the product for different populations are invited to contact the *Envirodesic*<sup>™</sup> Certification Program at any office below.