



# Aircraft Depainting Fluid Treatment

Aircraft are regularly washed down, depainted and prepared for repainting using water and chemicals, including benzyl alcohol, alodining fluid, and soap. Entrained in this wash water are oils, greases, and paint sludge. This contaminated water mixture subsequently ends up on the hangar floor or airport tarmac and is collected for treatment or offsite disposal. Until recently, this was an awkward logistical challenge and a costly process.



## Photo-Cat®

A **Green Purification Process for Aircraft Wash Water**

The **proven** Photo-Cat Process treats this complex liquid. The benzyl alcohol is destroyed and converted to carbon dioxide and water. Heavy metals such as chromium are removed for recycling. Other Chemicals that may appear, such as fuel residue, oil, soap, glycol and other contaminants that come off the aircraft, are also treated accordingly. The result is purified water that can be safely discharged or reused. As well, this process can eliminate environmental compliance requirements and complex health & safety issues.

### 1. Best Available Technology

- Photo-Cat is an automated, ambient temp, ambient pressure, photocatalytic process, to purify water

### 2. Lowest Life Cycle Cost

- Order of magnitude cost savings compared to alternatives
- A sustainable, low energy solution

### 3. Environmentally Conscious

- Eliminates need for all chemicals (except peroxide)
- No generated waste stream

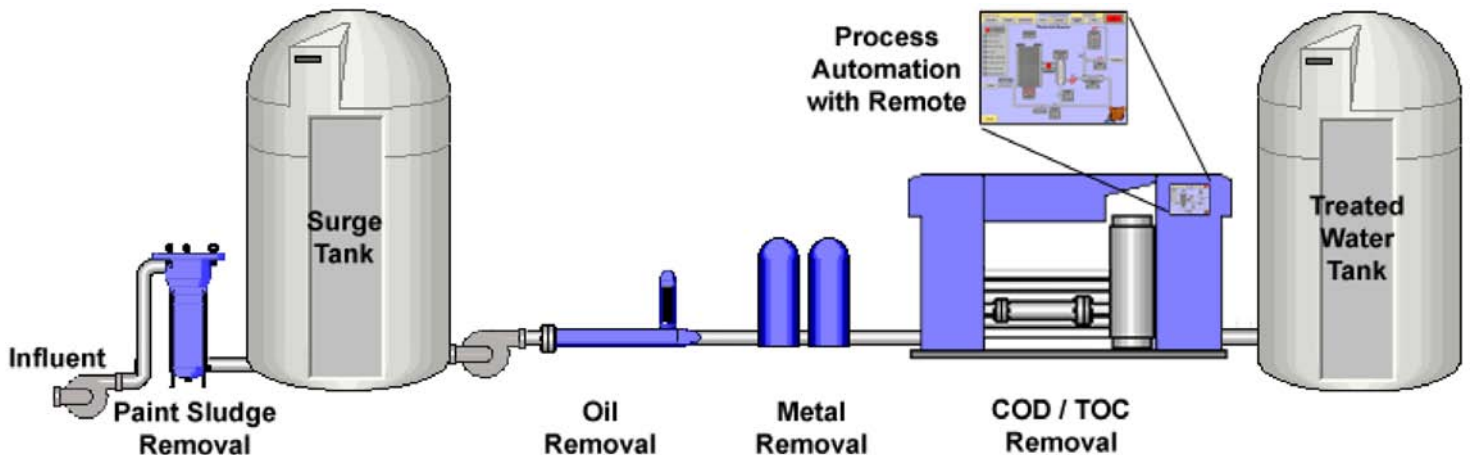
### 4. Simple Design & Operation

- Modular, plug & play systems, customized to specific needs, small foot print
- Eliminates equipment, hauling, and logistics

### 5. Process Flow Schematic



Full-Scale Photo-Cat Depainting Fluid Treatment System



**Unique Technologies...Achieve Solutions...Eliminate Risks**

## Proven Performance

Photo-Cat technology has its origin in the nuclear industry. It was first successfully applied to aircraft depainting needs in 1997 at McClellan AFB, as identified in the literature (Ref SWRI & Radian). Subsequently, this technology was evaluated and proven successful at an USN Nav Air Depot, and in the private sector. In these applications, order of magnitude cost reductions were demonstrated. Key performance data for two representative installations is listed in the table below.

Client Case	Aerospace Company	Government Owned Facility
<i>Before</i>		
<b>Wastewater Volume</b>	2.3 million L/yr (600,000 gal/yr)	9.4 million L/yr (2,500,000 gal/yr)
<b>Old Treatment</b>	Offsite	Onsite
<b>Issues</b>	<ul style="list-style-type: none"> <li>• Expensive</li> <li>• Labor intensive</li> <li>• Logistic challenges</li> </ul>	<ul style="list-style-type: none"> <li>• 2.6 million lbs of reagent waste</li> <li>• Expensive, complex process</li> <li>• Batch / surge issues</li> <li>• High labor inputs</li> </ul>
<i>After</i>		
<b>Solution</b>	Photo-Cat packaged system	Photo-Cat packaged system
<b>Performance</b>	<ul style="list-style-type: none"> <li>• Water treated to spec</li> <li>• Cost reduction</li> </ul>	<ul style="list-style-type: none"> <li>• COD from 25,000ppm to spec</li> <li>• Reduction in solid waste</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>• Fully automated</li> <li>• Transparent operation</li> <li>• 4 month ROI</li> </ul>	<ul style="list-style-type: none"> <li>• &gt;99% mixed waste elimination</li> <li>• &gt;75% chemical elimination</li> <li>• Simplified RO &amp; evaporation</li> <li>• Reduced complexity &amp; size</li> <li>• 1 year ROI</li> </ul>
<b>End Result</b>	<ul style="list-style-type: none"> <li>• Sanitary discharge</li> <li>• Some water reuse</li> </ul>	<ul style="list-style-type: none"> <li>• 100% water reuse</li> </ul>



Packaged Photo-Cat Depainting Fluid Treatment System

### Photo-Cat Availability

- Purchase
- Lease
- Build / Own / Operate
  - No capital outlay; No risk

### WORLDWIDE SUPPORT

provides our customers with responsive technical assistance, after-sale support, and spares.



340 Sovereign Road, London, ON, Canada, N6M 1A8  
 Ph: 519.473.5788, info@Purifics.com, www.Purifics.com

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