
Section I: LAER/BACT Determination for P/C No. 296689

Basic Equipment or Process: Vapor Degreasers - Batch

1. Basic Equipment

1a. Manufacturer: Serec Corporation

1b. Type: Airless Vapor Degreaser

1c. Model: 60120

1d. Style: Evacuated Cleaning Chamber

1e. Types(s) of Parts Cleaned

1f. Types of Solvent Used

Aluminum Honeycomb

PERC

1g. Applicable AQMD Regulation XI Rules

1h. Types of Soil Removed From Parts

Rule 1122 – Solvent Degreasers

Particles, oils, fingerprints, and other contaminants

1i. Cost

\$750,000

Source of Cost Data:

2. Basic Equipment Rating/Size – VOC Equipment

2a. Size/Dimension/Capacity

2b. Load

250 cubic feet

300 lb per load

2c. Normal Operating Condition/Schedule

8 hr/day, 5 day/wk

3. Company Information

3a. Name: BF Goodrich Aerospace

3b. Address: 8200 Arlington Ave: M/Z 1-M

City: Riverside

State: CA

Zip: 92503

3c. Contact Person: Ron Thompson

3d. Phone No.: (909) 351-5840

4. Permit Information

4a. Agency

4b. Agency Contact Person

South Coast AQMD

Bill Milner

4c. Phone No: (909) 396-2553[

4d. Permit to Construct Information

P/C No.: 296689

Issuance Date: 11/2/94

4e. Start-Up Date: 4/1/96

4f. Permit to Operate Information

| | |
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| 5. Emission Information | |
| 5a. Permit Limit | 5a2. <u>BACT/LAER Determination</u> |
| 5a1. <u>Permit Limit</u> PERC: 180 lb/month 25 ppm at outlet of carbon bed | The BACT/LAER determination for this degreasing operation is an airless vapor degreaser. The permit limit shown in Item (5a1) is the maximum allowable PERC mass emission rate and concentrations from the degreasing operation. A continuous emissions monitoring at the outlet of the carbon bed record concentrations of PERC. (See Item 6- Comment) |
| 5b. Control Technology | |
| 5b1. <u>Manufacturer/Supplier</u> | |
| Serec Corporation | |
| P.O. Box 28129 | |
| Providence, RI 02980 | |
| (401) 421-6080 | |
| 5b2. Description: Name of Control(s): | |
| <p>Closed-loop airless vapor degreasing technology involves placing parts or baskets of parts into a cleaning chamber that is sealed after loading. The cleaning cycle is fully automated. Air is evacuated from the chamber by a vacuum pump to a pressure below 25 torr. Chamber pressure is brought back up to about 1 atmosphere and solvent is flashed into the chamber through a valve by pressure gradient. Condensation of solvent onto the parts to be cleaned occurs and provides the mechanism for cleaning. Once condensation ceases, all liquid and residual vapor phase solvent is distilled or routed to a refrigerated condenser to provide continuously clean solvent for further solvent degreasing. Any remaining vapor phase solvent residing in the cleaning chamber is routed to a carbon bed for adsorption. Waste oils, greases, and soils are separated from used solvents generally by refrigerated condensation, distillation, and filtering processes. The only source of air emissions occurring through the use of a properly maintained airless system occur at the outlet of the carbon bed and tiny amounts of vapor are released to atmosphere once the chamber door is opened. The sum of the two emission points result in very small concentrations of emissions per cycle.</p> | |
| 5b3. <u>Control Equipment Permit Application Data</u> | 5b4. <u>Waste Air Flow to Control Equipment</u> |
| P/C No. : Same as Basic Equip | Flow Rate: 250 ft ³ /evacuation |
| P/C Issuance Date: | Actual VOC Loading: Unknown |
| P/O No.: Same as Basic Equip | Inlet Blower: N/A |
| P/O Issuance Date: | |
| 5b5. <u>Warranty</u> | |

| | |
|---|--|
| <p>Unknown</p> <p>5b7. <u>Secondary Pollutant</u></p> <p>None</p> <p>5b9. <u>Limitations</u></p> <p>There are no known limitations to airless vapor degreasers at this time.</p> <p>5b11. <u>Operating History</u></p> <p>Operating since April 1996</p> <p>5b13. <u>Source Test Conditions/Performance Data</u></p> <p>The performance data were recorded during normal loading conditions of the vapor degreaser (30 min/cycle for 80% of the time and 60 min/cycle for 20% of the time).</p> | <p>5b6. <u>Primary Pollutant</u></p> <p>This airless vapor degreaser emits perchloroethylene (PERC). PERC is classified as hazardous air pollutant (HAP) and an exempt solvent under AQMD Rule 102 – Definition of Terms.</p> <p>5b8. <u>Space Requirement</u></p> <p>500 square feet</p> <p>5b10. <u>Location of Prior Demonstration & Agency Facility: Contact Person: Phone Number: Agency: Address: Permit Number: Contact Person:</u></p> <p>5b12. <u>Source Test/Performance Data Analysis</u></p> <p>Date of Source Test: N/A Capture Efficiency: Destruction Efficiency: Overall Efficiency:</p> <p>Performance Data: The performance of the airless vapor degreaser is reflected in the make-up solvent logs and waste disposal records obtained from BF Goodrich Aerospace in 1998. These data demonstrated that PERC emissions are less than 180 lb per month.</p> |
| <p>5c. Cost</p> <p>5c1. <u>Control Equipment Cost</u></p> <p>Capital: Unknown</p> <p>Installation: Unknown</p> <p>Capital + Installation: \$750,000</p> <p>Source of Cost Data:</p> | <p>5c2. <u>Annual Operational/Maintenance Cost</u></p> <p>\$38,900</p> <p>Source of Cost Data:</p> |
| <p>5d. <u>Demonstration of Compliance</u></p> <p>5d1. <u>Date of Field Evaluation</u></p> <p>5d3. <u>Compliance Demonstration</u></p> <p>By SCAQMD Rule 109 Records and Waste Manifests</p> | <p>5d2. <u>AQMD Staff Performing Field Evaluation</u></p> <p>Engineer's Name: Not Applicable</p> <p>Inspector's Name: Not Applicable</p> <p>5d4. <u>Variance</u></p> |

5d5. No. of Violations

None

No. of Variances: None

Causes: Not Applicable

5d6. Frequency of Maintenance

Not Known

6. Comment

1. At the time of this BACT/LAER determination, PERC was still classified as a VOC.
2. Facility has been visited by the SCAQMD many times