

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2012  
DateRun: 08/28/2012  
Experimenters: Jason Marshall, Heidi Wilcox  
ClientType: Cleaner Manufacturer  
ProjectNumber: Project #2

Substrates:

PartType: Coupon

Contaminants:

Cleaning Methods:

Analytical Methods: Performance Test

Purpose: Conduct an EHS review of solvent using P2OASys

Experimental Procedure: P2OASys allows companies to assess the potential environmental, worker, and public health impacts of alternative technologies aimed at reducing toxics use. The goal is more comprehensive and systematic thinking about the potential hazards posed by current and alternative processes identified during the TUR planning process.

Collect data from external sources, and inputs both quantitative and qualitative data on the chemical toxicity, ecological effects, physical properties, and changes in work organization likely as a result of a proposed option (chemical or product of interest). The tool also allows the user to set data certainty and weighting factors for each endpoint.

Results:

| EHS Category                | TCE | NpB | Acetone | Methylene Chloride | BUTYLAL |
|-----------------------------|-----|-----|---------|--------------------|---------|
| Acute Human Health          | 7   | 7   | 6       | 6                  | 4       |
| Chronic Human Health        | 7   | 6   | 6       | 7                  | 2       |
| Physical Hazards            | 4   | 4   | 3       | 4                  | 3       |
| Aquatic Hazards             | 10  | 4   | 2       | 8                  |         |
| Persistence/bioaccumulation | 7   | 6   | 2       | 5                  | 4       |
| Atmospheric hazard          | 6   | 2   | 2       | 6                  | 2       |
| Disposal hazard             | 10  | 8   | 6       | 7                  | 6       |
| Chemical hazard             | 9   | 10  | 10      | 10                 | 6       |
| Energy & resource use       | 8   | 7   | 6       | 7                  | 7       |
| Product hazard              | 10  | 10  | 10      | 10                 | 8       |
| Exposure potential          | 10  | 10  | 10      | 10                 | 6       |
| Total                       | 88  | 74  | 63      | 80                 | 48      |
| Adjusted Score              | 8.0 | 6.7 | 5.7     | 7.3                | 4.8     |

Summary:

Conclusion: Of the five solvents compared, Butylal had the safer profile followed by acetone.