

**Effectiveness and Utility of Surface Application and Soil Percolation
for Removal of Pharmaceutical and Personal Care Products
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Executive Summary

The objective of the research was to study the removal of pharmaceutical and personal care products through surface application and soil percolation of on-site sewage facility effluent. The author studied the removal of acetaminophen, carbamazepine, fluoxetine, and trimethoprim through three soil columns: vegetated and exposed to the sunlight, bare soil exposed to sunlight, and bare soil not exposed to sunlight.

Some conclusions of the research were:

- Removal rates were at least 95% for all columns; and
- Photodegradation and removal by grass was not significant.

Author's Recommendations

There were no specific recommendations

Were rule changes identified?

None

Is further researched needed?

No further research was identified by TCEQ staff.