

# KSN 2016 Abstract Submission

## *Dialysis*

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### **Dialyzability of surfactants commonly used in pesticide formulations**

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**Background:** This study aimed to determine the dialyzability of common pesticide surfactants.

**Methods:** Hemodialysis and hemoperfusion were performed for three surfactants, sodium dodecylbenzenesulfonate, lignosulfonic acid sodium, and naphthalenesulfonic acid polymer with formaldehyde, with buffer solutions (2 L) containing 0.2% surfactant with or without bovine serum albumin (3.0 g/dL).

**Results:** The dialyzability of sodium dodecylbenzenesulfonate during hemodialysis was high and increased with ultrafiltration. The final reduction rates of naphthalene sulfonic acid polymer with formaldehyde and sodium dodecylbenzenesulfonate in bovine serum albumin were higher for hemoperfusion (25.8% and 26.8%, respectively) than for hemodialysis (8.2% and 0%, respectively). In contrast, the final reduction rate of lignosulfonic acid sodium in bovine serum albumin was higher for hemodialysis (37.5%) than for hemoperfusion (13.2%).

**Conclusion:** Ideally, the method of extracorporeal elimination for removal of surfactants should be tailored to each surfactant based on its dialyzability.

**Keywords:** dialysis efficiency, direct hemoperfusion, hemodialysis, surfactants