

**Supporting Information: Predicting the migration rate of dialkyl organotins from PVC
pipe into water**

**William A. Adams¹, Ying Xu², John C. Little³, Anthony F. Fristachi⁴, Glenn E. Rice^{5,*} and,
Christopher A. Impellitteri¹**

¹U.S. EPA National Risk Management Research Laboratory, 26 W Martin Luther King Drive,
Cincinnati, OH, USA

²Department of Civil, Architectural and Environmental Engineering, The University of Texas at
Austin, Austin, TX USA

³Department of Civil & Environmental Engineering, Virginia Tech, Blacksburg, VA, USA

⁴Fristachi Environmental Consulting, Los Alamos, NM, USA

⁵U.S. EPA National Center for Environmental Assessment, 26 W Martin Luther King Drive,
Cincinnati, OH, USA

*Corresponding author phone: (513)569-7813; fax: (513)487-2539; email: rice.glenn@epa.gov

3 pages; 2 tables

TABLE S1. Concentrations of dimethyl tin (DMT) and dibutyl tin (DBT) over time for three different PVC pipe circulations. The results have been corrected to compensate for fresh water added during sampling.

| Run 1 | | | Run 2 | | | Run 3 | | |
|-------|--------------------------|--------------------------|-------|-----------|-----------|-------|-----------|--------------------------|
| Time | DMT | DBT | Time | DMT | DBT | Time | DMT | DBT |
| (hr) | Concentrati on (ug/L) | Concentrati on (ug/L) | (hr) | on (ug/L) | on (ug/L) | (hr) | on (ug/L) | Concentrati on (ug/L) |
| 1 | 0.089 | 0.202 | 0 | 0.088 | 0.478 | 0.33 | 0.089 | 0.182 |
| 1 | 0.088 | 0.224 | 0 | 0.076 | 0.112 | 0.33 | 0.083 | 0.187 |
| 1 | 0.091 | 0.203 | 0 | 0.076 | 0.110 | 0.33 | 0.089 | 0.191 |
| 2 | 0.096 | 0.221 | 0.33 | 0.090 | 0.152 | 0.67 | 0.090 | 0.220 |
| 3 | 0.102 | 0.253 | 0.33 | 0.087 | 0.162 | 0.67 | 0.088 | 0.216 |
| 3 | 0.102 | 0.257 | 0.33 | 0.091 | 0.165 | 0.67 | 0.089 | 0.223 |
| 3 | 0.101 | 0.256 | 0.67 | 0.098 | 0.170 | 1 | 0.092 | 0.242 |
| 4 | 0.106 | 0.245 | 0.67 | 0.095 | 0.160 | 1 | 0.095 | 0.261 |
| 25 | 0.121 | 0.299 | 0.67 | 0.094 | 0.161 | 1 | 0.095 | 0.272 |
| 25 | 0.122 | 0.302 | 1 | 0.099 | 0.175 | 4 | 0.101 | 0.322 |
| 25 | 0.119 | 0.228 | 1 | 0.103 | 0.191 | 12 | 0.099 | 0.348 |
| 49 | 0.129 | 0.377 | 1 | 0.103 | 0.225 | 12 | 0.096 | 0.339 |
| 73 | 0.109 | 0.346 | 4 | 0.106 | 0.267 | 12 | 0.098 | 0.385 |
| 73 | 0.109 | 0.382 | 12 | 0.111 | 0.362 | 24 | 0.106 | 0.376 |
| 73 | 0.130 | 0.381 | 12 | 0.107 | 0.318 | 48 | 0.105 | 0.383 |
| 97 | 0.126 | 0.390 | 12 | 0.111 | 0.331 | 48 | 0.104 | 0.405 |
| 169 | 0.124 | 0.371 | 24 | 0.111 | 0.348 | 48 | 0.105 | 0.390 |
| 169 | 0.126 | 0.372 | 48 | 0.114 | 0.384 | 78 | 0.109 | 0.357 |
| 169 | 0.122 | 0.385 | 48 | 0.121 | 0.361 | | | |
| 241 | 0.120 | 0.433 | 48 | 0.116 | 0.326 | | | |
| | | | 100 | 0.116 | 0.371 | | | |

TABLE S2. The concentration analysis of total tin in PVC pipe using ICP-OES.

| Sample | Mass Samples (g) | Concentration Tin (mg/L) | Mass Tin in Sample (mg) | %Tin in PVC |
|----------------|---------------------|-----------------------------|----------------------------|----------------|
| PVC Location 1 | 0.183 | 10.2 | 0.408 | 0.223 |
| PVC Location 1 | 0.183 | 10.0 | 0.398 | 0.218 |
| PVC Location 1 | 0.183 | 10.3 | 0.411 | 0.225 |
| PVC Location 2 | 0.217 | 14.0 | 0.562 | 0.259 |
| PVC Location 2 | 0.217 | 13.9 | 0.556 | 0.256 |
| PVC Location 2 | 0.217 | 13.9 | 0.557 | 0.257 |
| PVC Location 3 | 0.195 | 11.4 | 0.456 | 0.234 |
| PVC Location 3 | 0.195 | 11.4 | 0.456 | 0.234 |
| PVC Location 3 | 0.195 | 11.4 | 0.457 | 0.234 |