

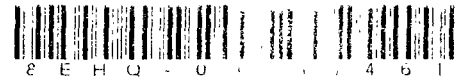


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March 30, 2009

TSCA Confidential Business Information Center (7407M)  
EPA East – Room 6428  
Attn: Section 8(e)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460-0001



Re: TSCA Section 8(e) Notification of Substantial Risk: Dow Corning® 949  
Cationic Emulsion

Dear TSCA Section 8(e) Coordinator:

In accordance with the provisions of Section 8(e) of the Toxic Substances Control Act (TSCA), as interpreted in the TSCA Section 8(e) Policy Statement and Guidance, Fed. Reg. 33129 (June 3, 2003) and other Agency guidance, Dow Corning Corporation submits information concerning a study with Dow Corning® 949 Cationic Emulsion. Dow Corning has not made a determination at this time that any significant risk of injury to human health or the environment is presented by these findings.

**Chemical Substance**

Dow Corning® 949 Cationic Emulsion



Composition (components > 1%):

<u>CAS#</u>	<u>Wt%</u>	<u>Name</u>
7732-18-5	60	Water
68554-54-1	30	Dimethyl Siloxane with Aminoethylaminopropyl Silsesquioxane, Hydroxy-term
556-67-2	2.2	Octamethylcyclotetrasiloxane
78330-21-9	1.9	Polyoxyethylated, C11-14 Alcohols

**Study**

Dow Corning® 949 Cationic Emulsion: Acute Toxicity to the Cladoceran (*Daphnia magna*) Under Static Test Conditions

**CONTAINS NO CBI**

*Contains No CBI*

318237

## **Summary**

The results of this study were based on nominal test concentrations. The 48-hour EC50 value for *Daphnia magna* exposed to Dow Corning® 949 Cationic Emulsion was calculated to be 0.97 mg/L with 95% confidence limits of 0.88 and 1.1 mg/L.

## **Details**

### **Study Design**

The purpose of this study was to determine the acute toxicity of Dow Corning® 949 Cationic Emulsion to the cladoceran (*Daphnia magna*) during a 48-hour exposure period under static test conditions. The in-life portion of the test was conducted from January 20, 2009 to January 22, 2009. *Daphnia magna* were exposed to six test concentrations and a negative (dilution water) control. Nominal test concentrations were 0.31, 0.63, 1.3, 2.5, 5.0 and 10 mg Dow Corning® 949 Cationic Emulsion (mg/L). Each treatment group consisted of two replicate test chambers containing 10 daphnids for a total of 20 daphnia per treatment group. Water samples were not collected for measurement of the test article and nominal test concentrations were used to calculate the EC50 values.

Dilution water used in the study was dechlorinated municipal water. Dilution water characteristics at test initiation were as follows: hardness – 138 mg/L as CaCO<sub>3</sub>, alkalinity – 68 mg/L as CaCO<sub>3</sub>, conductivity – 392 µmhos/cm, and the total residual chlorine was <10 µg/L. Measurements of water quality during the test remained within acceptable limits. Test temperature was maintained at 20 ± 2°C. Dissolved oxygen measurements remained ≥7.4 mg/L (84% of saturation) and pH ranged from 7.1 to 8.3.

### **Results**

*Daphnia magna* in the negative control appeared normal and healthy throughout the test with no mortality/immobility or overt signs of toxicity. *Daphnia magna* exposed to 0.31 and 0.63 mg/L also appeared normal and healthy with no mortality or immobility. After 48-hours of exposure, mortality in the 1.3, 2.5, 5.0 and 10 mg/L treatment groups was 90, 100, 100 and 100%, respectively. The 48-hour EC50 value for *Daphnia magna* exposed to Dow Corning® 949 Cationic Emulsion was calculated to be 0.97 mg/L with 95% confidence limits of 0.88 and 1.1 mg/L.

### **Discussion**

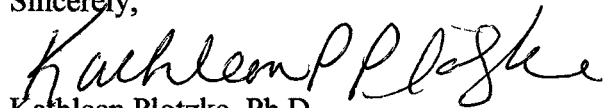
Quarternary ammonium salts present as emulsifying agents (and preservatives) have known aquatic toxicity. Therefore, the toxicity observed in this study was most likely due to component CAS# 68554-54-1 which was present at 30% by weight, and after water, is the largest component of the emulsion.

### **Action**

Dow Corning Corporation will notify EPA of any further relevant information that may be developed concerning this product. Also, a copy of the final report has been provided for your information (Attached).

If you have any questions concerning this submission, please contact me at (989) 496-8046, [Kathy.plotzke@dowcorning.com](mailto:Kathy.plotzke@dowcorning.com), or at the address provided herein.

Sincerely,

A handwritten signature in black ink that reads "Kathleen Plotzke". The signature is written in a cursive style with a large, prominent initial "K".

Kathleen Plotzke, Ph.D

Director, Health and Environmental Sciences

Dow Corning Corporation

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Midland, MI 48686

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