

# Health Consultation

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SARASOTA RESIDENTIAL MERCURY SPILL  
SARASOTA, SARASOTA COUNTY, FLORIDA

MARCH 13, 2003

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
**Public Health Service**  
Agency for Toxic Substances and Disease Registry  
Division of Health Assessment and Consultation  
Atlanta, Georgia 30333

HEALTH CONSULTATION

SARASOTA RESIDENTIAL MERCURY SPILL

SARASOTA, SARASOTA COUNTY, FLORIDA

Prepared by:

Florida Department of Health  
Bureau of Environmental Epidemiology  
Under a Cooperative Agreement with the  
Agency for Toxic Substances and Disease Registry

## FOREWORD

This health consultation summarizes public health concerns from a household mercury spill in Sarasota, Florida. It is based on a site evaluation prepared by the Florida Department of Health (DOH). A number of steps are necessary to do such an evaluation:

- **Evaluating exposure:** In an health consultation Florida DOH scientists begin by reviewing available information about environmental conditions at the site. The first task is to find out how much contamination is present, where it is found on the site, and how people might be exposed to it. Usually, Florida DOH does not collect its own environmental sampling data. We rely on information provided by the Florida Department of Environmental Protection (DEP), the U.S. Environmental Protection Agency (EPA), and other government agencies, as well as businesses, and the general public.
- **Evaluating health effects:** If evidence is obtained that people are being exposed—or could be exposed—to hazardous substances, Florida DOH scientists will take steps to determine whether that exposure could be harmful to human health. The report focuses on public health—that is, the health impact on the community as a whole—and is based on existing scientific information.
- **Developing recommendations:** In the health consultation report, Florida DOH outlines its conclusions regarding any potential health threat posed by a site, and offers recommendations for reducing or eliminating human exposure to contaminants. The role of Florida DOH in dealing with hazardous waste sites is primarily advisory. For that reason, the evaluation report will typically recommend actions to be taken by other agencies—including the EPA and Florida DEP. If however, an immediate health threat exists, Florida DOH will issue a public health advisory warning people of the danger, and will work to resolve the problem.
- **Soliciting community input:** The health consultation evaluation process is interactive. Florida DOH starts by soliciting and evaluating information from various government agencies, the organizations responsible for cleaning up the site, and the community surrounding the site. Any conclusions about the site are shared with the groups and organizations providing the information. Once an health consultation report has been prepared, Florida DOH seeks feedback from the public. *If you have questions or comments about this report, we encourage you to contact us.*

*Please write to:* Susan Bland  
Superfund Health Assessment and Education  
Bureau of Environmental Epidemiology/Florida Department of Health  
4052 Bald Cypress Way, Bin # A-08  
Tallahassee, FL 32399-1712

*Or call us at:* (850) 245-4299, or toll-free during business hours: 1-877-798-2772

## **Summary and Statement of Issues**

The purpose of this health consultation is to respond to a request for assistance from the Sarasota County Health Department (CHD) to the Florida Department of Health (DOH) to evaluate the results of indoor air and urine mercury samples collected by the Sarasota CHD. The Florida Department of Health (DOH), in cooperation with the U.S. Agency for Toxic Substances and Disease Registry (ATSDR), evaluated both indoor air and urine mercury levels for four Sarasota, Florida residents.

On May 20, 2002, a Sarasota teen spilled liquid mercury inside her family's house, contaminating both counter tops and carpet. The family moved out while a contractor cleaned the house. Air tests showed the cleanup was successful and mercury levels were no longer a health threat. Urine tests confirmed that the family had not been exposed to harmful levels of mercury. Five days after the spill, the family returned.

## **Site Description and History**

On May 20, 2002, the City of Sarasota discovered a mercury spill of approximately 1 cup in volume along Spyglass Hill Road (Figures 1 and 2). Cars had driven through the spill. That same day, the Florida Department of Environmental Protection (DEP) restricted access and cleaned up the spill. A few residents were concerned they had tracked the mercury into their homes. Florida DEP and US Environmental Protection Agency (EPA) determined that because of the small amount spilled and the quick cleanup time, it was unlikely that nearby residents had tracked substantial amounts of mercury into their homes.

Also on May 20, 2002, a teenager found a small (8–10 ounce) bottle of mercury along Spyglass Hill Road and took it home. While investigating the bottle's contents she and her teenage brother spilled mercury on the kitchen counters and on the living room carpet. The family vacated the home that night.

On May 21, 2002, the family reported the spill to the Sarasota County Health Department (CHD).

On May 23, the four family members delivered urine samples to the Sarasota CHD. The Florida DOH coordinated the analysis for mercury (and creatinine). The Florida DOH suggested the family see their physician if they experienced any health effects. Florida DOH provided information to the family about mercury exposure and the roles of the different agencies. The Florida DOH also told the owner would receive a copy of the health consultation.

During the week of May 23, 2002, a contractor hired by the family cleaned up the spilled mercury. The contractor removed the carpeting where most of the mercury was found, and cleaned the counters. The contractor tested the air in the home for mercury using a Jerome meter. The EPA also tested the air using a more sensitive Lumex meter. The highest concentration of mercury detected was 43 micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ). On May 24, the Florida DOH and Sarasota CHD informed the residents that the concentrations of mercury measured in

the indoor air (including the maximum mercury level) did not pose a public health threat. The family moved back in the home the same day.

In a letter dated June 6, 2002, Florida DOH informed the family that their urine mercury levels were within the laboratory's reference range and below the national average. This letter also summarized earlier conversations with the homeowner stating the maximum mercury air concentrations detected were not likely to cause health effects.

## **Discussion**

### Mercury in Air

The Florida DOH determined no serious health effects were likely at the maximum mercury levels of 43 ug/m<sup>3</sup> measured in the home. After cleanup and ventilation of the home, the measured indoor air levels decreased to 0.5 ug/m<sup>3</sup>.

### Mercury in Urine

As a precaution, the Sarasota CHD tested the urine mercury levels of the four residents. The Florida DOH coordinated this sampling event. A urine mercury measurement is reliable, simple, and provides rapid identification of individuals exposed to mercury. Mercury urine levels peak immediately after exposure. The highest urine levels are measured within 72 hours (3 days). The half-life for mercury in the body is 40–70 days.

The four family members collected their urine samples early in the morning of May 23 in trace-free containers supplied by the National Medical Services (NMS) Laboratory in Pennsylvania. The Sarasota CHD packaged the samples and shipped them overnight to the NMS Laboratory. The NMS laboratory also measured creatinine levels to determine how diluted the urine was. The family's mercury urine levels were less than average urine levels for the general population (4-5 micrograms per liter, µg/L). Their urine levels were also less than average urine levels from studies found in ATSDR's Toxicological Profiles (ATSDR 1999). Their creatinine levels were also within the normal range. The results indicate the family was not exposed to mercury at levels likely to cause illness. Florida DOH informed the family and their physician of its findings and provided information about mercury exposure.

## **Child Health Initiative**

The Sarasota household where the mercury spill occurred includes two teenagers but no small children. Because the measured indoor air mercury air levels are below health guidelines and the mercury urine levels of the two teenagers in the household are within the normal range, exposure to the mercury spill at this residence is unlikely to cause illness.

## **Conclusions**

Based on the information evaluated in this report, the Sarasota Residential Mercury spill is categorized as a no apparent public health hazard. Because indoor air mercury levels were below health guidelines and urine mercury levels were determined to be below average, the Sarasota family is unlikely to suffer illness from exposure to the residential mercury spill.

## **Recommendations/Public Health Action Plan**

The Florida DOH does not have any recommendations at this time.

## References

- (1) [ATSDR] Agency for Toxic Substances and Disease Registry. 1999. Toxicological profile for mercury. Atlanta: US Department of Health and Human Services.

**Preparer of the Report**

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Florida Department of Health

**ATSDR Technical Project Officer**

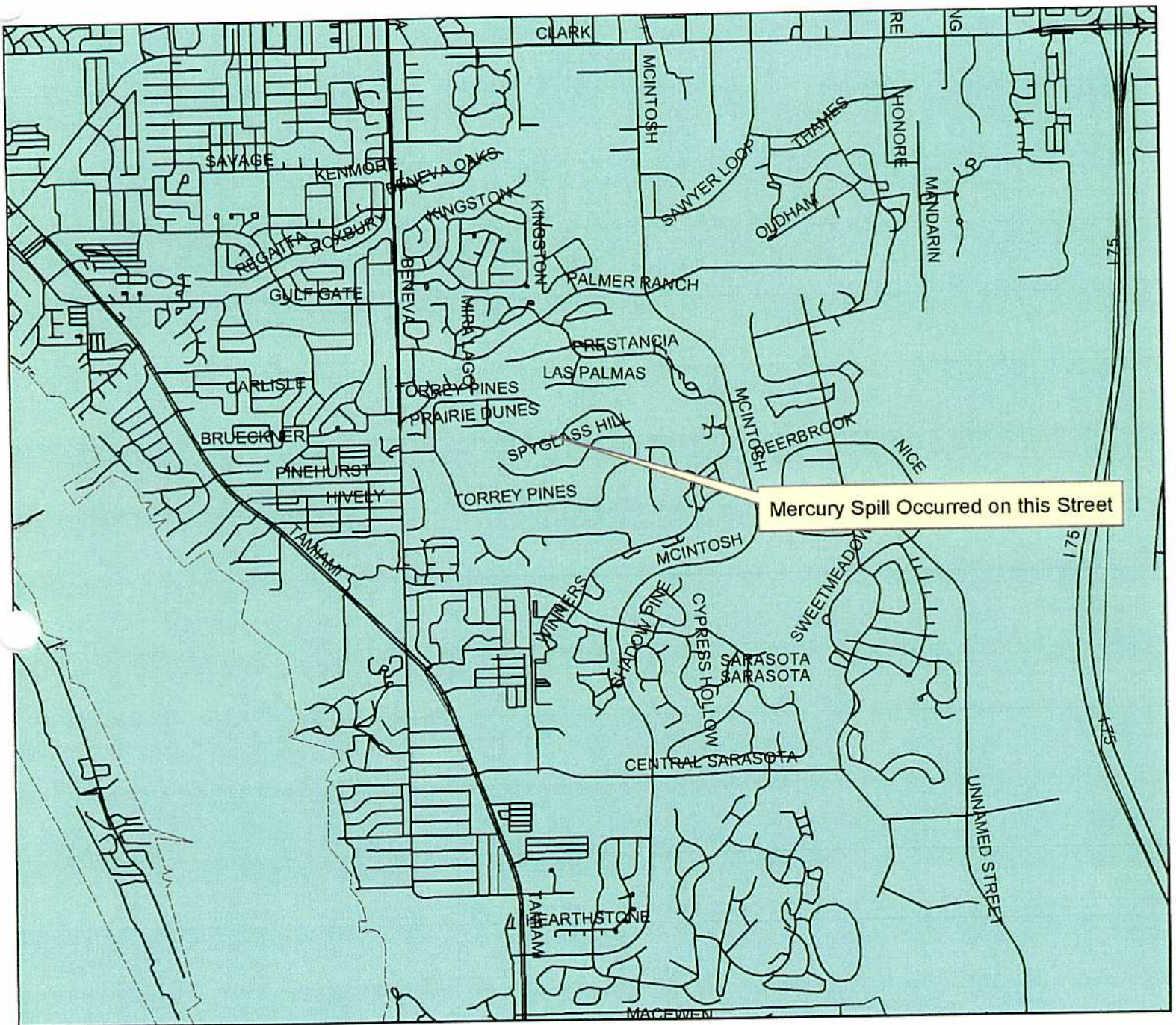
Debra Gable  
Division of Health Assessment and Consultation  
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Agency for Toxic Substances and Disease Registry

# FLORIDA COUNTIES



**FIGURE 1**  
**Sarasota Mercury Spill**  
**Source: ArcGIS Map 2000**

# Sarasota Mercury Spill Spyglass Hill Road



**Figure 2**  
**Sarasota Mercury Spill**  
**Source: ArcGIS Map 2000**

CONSENT FORM FOR PARTICIPATION  
SARASOTA MERCURY EXPOSURE INVESTIGATION  
(Participant Consent for Urine Testing)

The Florida Department of Health (FDOH) in cooperation with the Sarasota County Health Department (SCHD), are offering free voluntary urine tests for mercury for two adults and two teenagers in Sarasota. The SCHD found liquid mercury in this family's home. The purpose of doing this urine test is to see if you have been exposed to mercury. Your participation in this investigation will allow you to know your own urine level of mercury. Your participation will also allow the FDOH and SCHD to identify public health actions, if appropriate, to reduce your exposure to these metals.

### **Benefits**

By participating in urine testing, you will learn whether you have measurable elevated levels of mercury in your blood. If elevated levels are found, you will receive information on how to reduce your current and future exposure. If you give permission below, your test results may be released to other federal, state and local public health and environmental agencies so that they may take appropriate public health actions, if necessary. If you give your permission below, we will also give your doctor your tests results so that he or she can determine any proper follow-up actions, if necessary.

### **Procedure**

- ◆ URINE - If you participate, you will collect your urine in a trace free metal plastic container provided by the National Medical Services Laboratory in Pennsylvania. Your urine will be tested at this laboratory, and the results will be sent to the FDOH. The only test that will be conducted on your urine will be for mercury and creatinine (to tell us how diluted your urine is). The urine sample will be stored at the laboratory for two weeks and then destroyed.

### **Participation**

You can choose to have your urine tested or not. Any information you may provide is voluntary. Even if you agree to participate and sign this form, you can stop your participation at any time without penalty. You understand and agree that FDOH does not offer compensation or medical treatment as a result of your test results, nor for injury to you as a result of your participation. You understand that you must sign this form to participate in this testing.

### **Results**

We will provide a copy of your urine test results within 1 week subject to unexpected events which may cause delay. You will receive an actual test result in addition to laboratory reference values with an explanation of their meaning. The FDOH will contact you immediately if the test results are an immediate health concern. If your results show you have elevated values of mercury, you should tell your own doctor about these findings. Also, the FDOH will prepare a

report (health consultation) within six weeks of receipt of the test results. The health consultation will include an explanation of the testing results including conclusions and recommendations

### **Confidentiality**

Confidentiality of your test results will be protected according to state and federal laws. Any reports produced from this information will give only group information and not identify specific individuals. Any medical information containing your name or address will be kept in locked cabinets at the FDOH. The FDOH will take every reasonable precaution to keep your records confidential. If you give permission below, your test results may be released to other federal, state and local public health and environmental agencies. If you give permission below, your test results will be sent to your own doctor.

### **Contact**

If you have any additional questions about this investigation or the testing, you may contact Susan Bland, Exposure Investigation Coordinator with the FDOH toll free at 1-877-798-2772, or Rob Bolesta with the SCHD at (941) 861-6111.

### **Consent of Participant**

I have read this consent form. The procedure and benefits of this urine testing have been explained to me. All of my questions have been satisfactorily answered. I freely and voluntarily give my signed consent for participating in the testing described above.

### **Please Check One Box**

- I give consent for my urine test results to be given to the Sarasota County Health Department (SCHD), Florida Department of Environmental Protection (FDEP) and the Environmental Protection Agency (EPA).
  
- I DO NOT give consent for my urine test results to be given to SCHD, FDEP, or EPA

**Please Check One Box**

- I give consent for my urine test results to be given to my own doctor (please write doctor's name and address below).
- I DO NOT give consent for my urine test results to be given to my own doctor.

Doctor's Name: \_\_\_\_\_

First

Last

Address \_\_\_\_\_

\_\_\_\_\_

City

State

Zip code

**Participant**

I, \_\_\_\_\_, the undersigned, agree to urine  
(Print Name- First M.I. Last)  
testing and for results to be shared with the above identified persons.

Address: \_\_\_\_\_

\_\_\_\_\_

City

State

Zip code

Phone #: \_\_\_\_\_

(Area Code)-

**Participant**

**Signature:** \_\_\_\_\_

First

M.I.

Last

**Guardian**

**Signature:** \_\_\_\_\_

First

M.I.

Last

(if participant is under the age of 18)

**Date:** \_\_\_\_\_

## CERTIFICATION

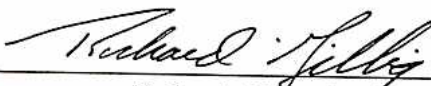
The Sarasota Residential Mercury Spill Health Consultation was prepared by the Florida Department of Health, Bureau of Environmental Epidemiology, under a cooperative agreement with the Agency for Toxic Substances and Disease Registry. It is in accordance with approved methodology and procedures existing at the time the health consultation was begun.



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Debra Gable  
Technical Project Officer,  
SPS, SSAB, DHAC  
ATSDR

The Division of Health Assessment and Consultation, ATSDR, has reviewed this health consultation, and concurs with its findings.



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Roberta Erwein  
Section Chief,  
SPS, SSAB, DHAC,  
ATSDR