



# Questions and Answer Fact Sheet for Former Duracell Site Village of Sleepy Hollow Westchester County October 2009

## **Background:**

The former Duracell property, located at 60 Elm Street in the Village of Sleepy Hollow, was home to a battery manufacturing company that ceased operations in 1984. Under a legal agreement between the New York State Department of Environmental Conservation and Duracell, an environmental investigation of the property conducted between 1985 and 1989 identified mercury and lead contamination in soil on-and off-site. A site-specific remedial program implemented between 1988 and 1993 resulted in the removal of the on-site building, underground storage tanks, and excavation and removal of contaminated soil from the site, eight adjacent properties and the former Duracell parking lot.

## **Why is the State revisiting the former Duracell Site at this time?**

Recently, a prospective home buyer had the soil sampled at a residential property located immediately south of the former Duracell Site. The home buyer's sampling result prompted the property owner to contact the NYSDEC and NYSDOH requesting an evaluation of the findings. The NYSDEC and NYSDOH evaluated these results in conjunction with remedial activities previously completed at the former Duracell Site (1988-1993). The NYSDEC and NYSDOH also examined the results in the context of the mercury and lead soil cleanup objectives (SCOs) that were established by the state in 2006. As a result of the evaluations, the NYSDEC and NYSDOH collected additional samples in the area to provide a better understanding of current conditions. Some of the sampling results exceeded the SCOs for mercury and lead. However, soil concentrations that are higher than the SCOs are not necessarily a health concern.

## **What are soil cleanup objectives ("SCOs")?**

In 2006, as required by changes in the Environmental Conservation Law, NYSDEC (in consultation with NYSDOH) established soil cleanup objectives or "SCOs" for chemicals in soil. SCOs are contaminant-specific soil concentrations that are protective of public health and the environment. However, soil concentrations that are higher than the SCOs are not necessarily a health concern. The degree of public health concern when an SCO is exceeded depends on several factors, including (among others) the magnitude of the exceedance, the accuracy of the exposure estimates, other sources of exposure to the chemical, and the strength and quality of the available toxicological information on the chemical. The SCOs are contained in NYSDEC's Environmental Remediation Programs' regulations, title 6 of the Official Compilation of New York Codes, Rules and Regulations, Part 375-6 (i.e., 6 NYCRR Part 375-6).

## **How did contamination extend beyond the former plant?**

Air emissions from site operations (e.g., exhaust from various air handling units servicing the plant, operation and maintenance of cyclones and bag houses used for particulate collection) at the former battery manufacturing plant are the most likely source of the mercury and lead contamination on affected properties.

## **Has the NYSDEC completed its follow-up assessment?**

The NYSDEC has completed the initial phase of its assessment. Background samples were collected from Patriot's Park,

Kingsland Point Park, and Rockefeller State Park Preserve on May 6-7, 2009, and analyzed for total lead and total mercury. Background samples were collected to examine the naturally occurring levels of lead and mercury that are found in soils in the vicinity of the former Duracell Site. The parks were chosen based on their locale in the general area while presumed to have not been affected by historic operations at the former Duracell plant. Samples were also collected from thirty-nine residential and Village-owned properties during May 2009, and analyzed for total lead and total mercury. Based on the findings of this initial assessment, additional sampling will be required to determine the extent of contamination across the neighborhood.

### **Will some form of additional action be necessary?**

The analyses of the soil samples collected in some yards show the presence of mercury and/or lead in soils at concentrations above the SCOs for a residential setting. (See above for an explanation of an SCO exceedance.) However, soil concentrations that are higher than the SCOs are not necessarily a health concern. Additional evaluation is required to determine what further remedial action is appropriate to address the contamination. Once this additional evaluation is completed, a plan of action will be developed and shared with village officials and the local community.

### **Who is going to cleanup my yard, if necessary?**

At this time, the NYSDEC is evaluating options and discussing the situation with various state and federal agencies, as well as initiating discussions with the responsible parties.

### **Will I be responsible for the cost of any cleanup action on my property, if it's deemed necessary?**

If a cleanup action is necessary on any property, the cost of the action will not be borne by the property owner to the extent the party is not otherwise one of the responsible parties for the former Duracell Site.

### **Will the former plant operator (Duracell) be involved in any cleanup action?**

New York State Law requires that the responsible parties for the site contamination must be given the opportunity to undertake any cleanup action prior to the state using State funds to perform such action. At this time, the NYSDEC is meeting with Duracell officials to determine their role in any necessary cleanup action.

### **What is mercury?**

Mercury is a naturally occurring metal that is found at low levels in the environment. Natural sources of mercury in the environment include the breakdown of minerals in rocks and volcanic activity. It can also be released into the environment through human activities such as mining, smelting, industrial processes, and combustion of fossil fuels. Mercury can exist in several different forms, which are elemental (metallic) mercury, inorganic mercury (when mercury combines with elements such as sulfur, chlorine or oxygen), and organic mercury (when mercury combines with carbon). There are many different inorganic and organic mercury compounds. Air emissions from the former Duracell Site contained an inorganic form of mercury called mercuric oxide.

### **What is lead?**

Lead is a metal that occurs naturally in the environment at low levels, and is usually combined with other elements. Lead also gets into the environment from human activities, such as historical use of lead in gasoline, paint and pesticides, releases from mining lead and other metals, and releases from factories that make or use lead, lead alloys and lead compounds. Air emissions from the former Duracell Site contained lead.

### **How can I be exposed to mercury or lead from the site?**

People can be exposed to soil contaminants such as mercury or lead if they get soil particles on their hands and swallow the soil through hand-to-mouth activity. Some exposure may also occur when contaminated soil is tracked inside a building and becomes part of indoor dust. Other ways people could be exposed are by breathing windblown soil and dust particles, or by eating vegetables grown in contaminated soil. Young children have the greatest potential for exposure to soil contaminants because they often come into direct contact with the soil while playing or digging in the dirt, and may

swallow the soil by putting their fingers or hands in their mouths.

### **What health effects can be caused by exposure to mercury and lead?**

The risk for adverse health effects from exposure to any chemical depends on the chemical's toxicity, the amount of the chemical to which a person is exposed, and how long and how often the exposure occurs. Ingestion of large amounts of inorganic mercury can cause damage to the kidneys. Ingestion of large amounts of lead causes adverse effects on the nervous system (leading to learning problems and decreases in cognitive ability), and is of particular concern for small children, whose nervous systems are still developing. These effects typically occur at mercury and lead exposures much higher than those that might occur based on levels in your yard.

### **Will my children get sick if they play in my yard? What measures should I take to protect them?**

We do not expect there to be any immediate health effects from exposure to inorganic mercury or lead in the soil, because the exposure levels that cause these effects are much higher than any short-term contaminant exposures we would expect from activities in your yard. However, you can reduce the chances for long-term exposure to inorganic mercury and lead by taking steps to minimize direct and repeated contact (particularly among young children) with bare soils. Maintenance of a grass or mulch cover will help prevent direct contact with the soil. Unnecessary digging in the dirt should be avoided, and children and adults should wash hands after outdoor activities to help reduce the potential for exposure. The use of doormats and periodic damp mopping of floors can help reduce exposure to outdoor soil that might be tracked indoors.

### **Should I eat vegetables grown in my yard?**

Eating homegrown vegetables is a decision that is yours to make. However, until the yards are cleaned up, eating vegetables from your garden may expose you to elevated levels of lead and mercury. Some studies suggest that inorganic mercury and lead can be taken up from soil into garden vegetables. The amount of mercury or lead taken into the vegetables is difficult to know because it depends on many factors such as the specific kind of vegetable, characteristics of the soil, the level of lead and mercury in the soil and others. Also, soil can stick to vegetables and then be taken into the body when the vegetables are eaten. To help reduce any exposures you might have from vegetable gardening, you can take some simple precautions. For example you may decide not to plant a vegetable garden until the yards are cleaned up. If you choose to garden, you can wash the vegetables and peel those such as cucumbers, potatoes and carrots to help remove soil adhering to the surface. You also can wear gloves when digging in your garden, and wash your face and hands after working in the garden. You might also want to consider growing vegetable plants in a raised bed or container with composted manure or clean soil.

### **Can we use Barnhart Park?**

Yes. Much of this heavily used public park is covered with man-made materials that prevent contact with the soils beneath. Where park soils are covered by grass, testing found no mercury or lead contamination in surface soils that requires action. Since the park's location is historically upwind from the former Duracell plant, the State does not expect to find significant levels of contaminants within the current park.

### **At what mercury and lead levels should I take these precautions to reduce the chances for exposure?**

In 2006, the New York State Department of Health established health-based residential soil cleanup objectives (SCOs) of 1.2 parts per million (ppm) for inorganic mercury and 400 ppm for lead. Both of these SCOs are levels of the contaminant in soil that are unlikely to result in adverse health effects, and were developed based on the assumption that people are exposed to soil through activities that typically occur on residential properties (e.g., working and playing in the yard, gardening). A SCO is not a "bright line" between soil concentrations that will result in health effects and those that will not. Rather, the SCOs can be used to help guide decisions about when to take measures to reduce exposure to contaminants in soil. Reasonable and practical actions such as those discussed above can be taken to reduce the potential for mercury and lead exposure in soil (and therefore reduce the risk of adverse health effects) when soil levels are above the SCOs. The urgency to take actions increases as the level of soil contaminants increases, particularly when the levels are above the SCOs. Also, it is prudent to minimize getting soil into the body whether it is known to be contaminated or not.

### **Will a health study be done?**

In 1991, blood and urine samples were collected from some people to help assess possible exposures to the lead and mercury released from the Duracell facility to air, soil and dust. This testing showed that some people may have been exposed to lead and mercury from the facility. The closure of the Duracell facility in 1984 and the remedial work that was performed between 1988 and 1993 removed the major sources of exposure to lead and mercury. Because these sources of exposure have been removed and because of the relatively small number of people currently living in the area, a health (epidemiologic or statistical) study of area residents would not show any health effects that could be directly linked to emissions from the former facility. Even if a few cases of disease were found, it would be difficult to determine whether they were related to a specific environmental cause or to the natural incidence of disease within the general population. It also would be scientifically impossible to prove that there have been no health effects from exposure. Thus, a health study would not provide definitive answers to persons living near the plant. As described below, you should speak with your health care provider if you are concerned about any mercury or lead exposure you may have had.

### **Should I be tested for mercury or lead?**

Whether or not to get tested is an individual decision. Total mercury levels (elemental, inorganic and organic) can be measured in urine. Everyone has a small amount of mercury in his/her body. An elevated level of mercury in urine indicates exposure to a source of elemental or inorganic mercury, but the test cannot identify where the mercury came from. In general, urine mercury levels can't predict whether or not people will have adverse health effects. If you have concerns about mercury exposure and want to get tested, consult your health care provider. The analysis should be done by a laboratory that is approved by the New York State Department of Health's Clinical Laboratory Evaluation Program.

Exposures to lead can be evaluated by measuring the level of lead in blood. Everyone has a small amount of lead in their body, and New York State regulations require medical providers to test children for lead when they are one year old and again when they are two years old. As with mercury, an elevated blood lead level suggests a source of exposure, but the test cannot identify where the lead came from. If you have a young child who has not recently had a blood lead test, and you have concerns about his or her potential lead exposure, you should consult your pediatrician about having your child tested.

### **Where can I get more information?**

For project concerns, contact:

Mr. Dan Lanners  
Project Manager  
NYSDEC  
625 Broadway, 11th Floor  
Albany, NY 12233-7014  
1-866-520-2334 or  
518-402-9662

For site-related health questions, contact:

Ms. Fay S. Navratil  
NYSDOH Flanigan Square  
547 River Street  
Troy, NY 12180-2216  
1-800-458-1158, Ext. 27880

For Citizen Participation questions, contact:

Mr. Michael Knipfing  
Citizen Participation Specialist  
NYSDEC  
21 South Putt Corners Road  
New Paltz, NY 12561  
1-845-256-3154