



# United Steelworkers of America

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Debbie Kring  
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Kansas City, Kansas 66101  
August 13, 2004

VIA EMAIL [kring.debbie@epa.gov](mailto:kring.debbie@epa.gov)  
and US Postal Service

Re: Omaha Lead Superfund Site

Dear Ms. Kring:

United Steelworkers of America (USWA) appreciates the opportunity to provide the enclosed comments regarding EPA's proposed plan for the Omaha Lead Superfund Site. As you may know, USWA represents members who live and work in Omaha, including those who were employed at the Asarco lead refinery prior to its closing. We believe that our members, as well as their children and grandchildren, would be adversely affected if the Proposed Plan is weakened and that it is in the interest of public and environmental health that it be strengthened.

According to media reports, EPA is coming under pressure to weaken its proposed plan. A community group, formed, headed and advised by parties with a vested interest in lowering cleanup costs, is trying to minimize community concern about and divert community attention from the high concentrations of lead in soil.

Despite any public pressure, the evidence concerning lead's serious health effects cannot be ignored. As you know, the health effects associated with lead are well documented, especially to young children and the unborn. Recently published studies provide a mounting body of scientific evidence regarding lead's toxicity, including carcinogenicity. We believe the attached comments document the need for an even more stringent cleanup in Omaha if further adverse impacts of coming in contact with lead contaminated soils are to be prevented. The proposed plan should be strengthened, not weakened.

Asarco, which your agency has identified at the primary PRP, should be held accountable for the cleanup. While Asarco has portrayed itself as financially strained and incapable of covering many of its liabilities in a timely manner, the recent skyrocketing of metals prices, including a 65% increase in the price of copper year over year, has enabled the company to gain a much more solid financial footing. Asarco's sales rose by over a third in second quarter 2004 while the company reduced its costs substantially. It is important to note that Asarco is a

subsidiary of Grupo Mexico, which had earnings of over \$363 million for the first half of 2004 alone.

Asarco and Grupo Mexico have become notorious for abusing workers, retirees, communities and the environment, and they should not be let off the hook for jeopardizing the health and welfare of Omaha residents. Through its heavy handed approach to labor relations, Grupo Mexico recently provoked strikes at its operations in both Mexico and South America. The company has gone to court to enforce its unilateral decision to break its contractual healthcare promise to Asarco retirees; it is trying to force seniors to pay more than they were promised for less coverage than it promised them. Asarco has also left communities in the lurch by repeatedly failing to pay its taxes on time. Too, the company has shown little willingness to take responsibility for environmental liabilities it has incurred over the last century. Grupo Mexico attempted to shift its lucrative Peruvian assets from Asarco on the cheap, which would have left Asarco unable to cover these liabilities. It was only because the Department of Justice blocked the sale that the company was forced to set aside money for cleanup.

We hope that you will find our comments useful and will take them into consideration before finalizing your plan for the Omaha site. Should you have any questions or need further information, please do not hesitate to contact me at (585) 589-4695.

Respectfully submitted,



Diane F. Heminway  
Environmental Projects Coordinator  
UNITED STEELWORKERS OF AMERICA

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**COMMENTS OF UNITED STEELWORKERS OF AMERICA  
ON THE OMAHA LEAD SUPERFUND SITE  
AUGUST 13, 2004**

United Steelworkers of America (USWA) is an international labor union representing over 675,000 members throughout the United States, Puerto Rico and Canada. We appreciate the opportunity to comment on EPA's Proposed Plan for the Omaha Lead Superfund Site.

USWA has long been committed to the health and safety of our members, their families, and the communities in which our facilities operate. As a labor union, we recognize that economic and environmental sustainability go hand in hand and are achievable only through the protection of the very resources necessary for industrial, community and personal survival. Many of our members and their families live and work in the Omaha community. We respectfully offer the following comments for your consideration, especially since new information has recently surfaced regarding health effects associated with lead exposure.

**Health Effects of Lead are well Documented**

Decades of health information have established the serious health effects of lead exposure, particularly in young children and the unborn. Brain damage, developmental and behavioral problems, kidney damage, congenital anomalies and a host of other serious health effects have driven the medical and regulatory communities to develop programs aimed at addressing and preventing lead exposure. There is no known safe level of lead and consequently, a NOAEL (no observable adverse effects level) has not been established.

**Newly Released Studies Link Lead to Cancer**

On July 8, 2004, EPA updated its position on the toxicity of inorganic lead compounds as a probable carcinogen. (see [www.epa.gov/iris/subst/o277.htm](http://www.epa.gov/iris/subst/o277.htm) ) This change was based on six epidemiological studies conducted in the US (two studies), Sweden, United Kingdom and Italy. The data collected suggests a link between lead and lung cancer, stomach cancer, kidney cancer, and brain cancer. These studies have prompted the International Agency on Research on Carcinogens (IARC) to revise its position on lead. (see [www.monographs.iarc.fr/htdocs/announcements/vol87.htm](http://www.monographs.iarc.fr/htdocs/announcements/vol87.htm) )

The model that EPA used to determine "acceptable" levels considered only the non-carcinogenic effects of lead, and therefore, was inherently flawed. We request that the soil clean up level be reconsidered based on the carcinogenic effects of lead.

**The Proposal Violates EPA/TSCA Lead Hazard Standards**

In an effort to protect children from lead poisoning, EPA established Residential Lead Standards-TSCA Section 403 to "provide home owners, school and playground administrators, childcare providers and others with standards to protect children from hazards posed by lead, including children in federally-owned housing." The standard states that

*"Lead is considered a hazard if there are greater than: 40 micrograms of lead in dust per square foot on floors; 250 micrograms of lead in dust per square foot on interior window sills and 400 part per million of lead in bare soil in children's play areas or 1200 ppm average for bare soil in the rest of the yard."*

While this standard allowed for levels up to 1200 in areas where children do not play, it clearly indicates that bare soils should not contain more than 400 ppm of lead where children play. Therefore, it seems reasonable and logical, if not legally mandated, for the soils in *all* Omaha yards where children may play to be cleaned up to a level not to exceed 400 ppm. The Proposed Plan apparently calls for cleanup to that level only at some of these yards that are particularly high child impact, while cleaning up to 800 ppm at others.

When the carcinogenic impacts of lead are considered, soils containing 400 ppm of lead may be unacceptable.

### **Children Face Increased Risks from Multiple Exposures**

Many of the children living in Omaha were born there. It is likely that many of them are offspring of long-time residents who grew up being exposed to lead and other toxic metals from the Asarco refinery. Many of them are likely to have been born with elevated levels of lead in their bodies as a result of their parents' body burdens of lead. Too, many of the houses in Omaha contain lead paint, as well as lead contaminated dust. Some children may even be eating vegetables grown in contaminated soils in their back yards. These combined exposures increase the likelihood of a child being harmed by lead. All of these factors should be considered when assessing a child's risk, and consequently, a truly protective soil cleanup level should be established that takes all of these exposures into consideration. In determining a cleanup level, the goal should be to ensure that risk is not underestimated. While there may be a financial desire to avoid "gross overestimation" of risk, as EPA phrases it, the goal of protecting public health and the environment mandates that it is better to err on the side of overestimation than on the side of underestimation. As EPA states:

*"Consistent with its mission, EPA risk assessments tend towards protecting public and environmental health by preferring an approach that does not underestimate risk in the face of uncertainty and variability. In other words, EPA seeks to adequately protect public and environmental health by ensuring that risk is not likely to be underestimated."*

Infants and children are qualitatively different from mature humans in many aspects of their behavior and biology and thus are more vulnerable than adults to many environmental toxicants. Children drink more water, eat more food, and breathe more air per pound of body weight compared with adults. For example, children in the first six months of life drink seven times as much water, and children ages one through five years eat three to four times as much food, on a body-weight basis than the average adult. The air intake of a resting infant is twice that of an adult. Children further magnify their exposures through hand-to-mouth behavior and their play close to the ground.

### **Calculations of Soil Ingestion Rate Should Include the Intentional Ingestion of Soil by Children**

The ingestion of soil by children is often the most restrictive pathway in assessments of the risk posed by direct human contact with contaminated soil. A key piece of data required for accurate assessment is how much soil a child actually ingests. Standard risk assessment practice fails to consider a common childhood behavior – the intentional ingestion of soil.

We believe that the risks posed by contaminated sites to normal children who eat soil intentionally, as well as to those who exhibit less common, upper-end pica behavior should be

considered. Evidence documented by Dr. Edward Calabrese and Dr. Edward Stanek, of the School of Public Health at the University of Massachusetts, Amherst, indicates that existing risk-based cleanup standards, such as the EPA's Superfund Soil Screening Levels, are not protective of the large percentage of normal children who are likely to engage in at least one episode of intentional ingestion per year.<sup>1</sup>

The reason for this is that standard risk assessment practice assumes that 95% of children ingest 200 milligrams (mg) of soil/day or less. This rate only considers "incidental" ingestion – the amount associated with crawling, play, and associated hand-to-mouth behavior.

Several soil ingestion studies, however, have documented that children can also ingest much larger quantities of soil in a single day. For example, in Calabrese and Stanek's landmark 1989 study of children in Amherst, Massachusetts, one two-and-a-half year old child ingested 20-25g of soil on each of two days. A second child displayed more consistent but less striking behavior in which intentional soil ingestion (of 1-3 g/day) was observed on four out of seven days. A 1988 study in Jamaica observed the ingestion of greater than 1 g/day in five out of 24 children of normal mental capability on at least one of four days. One mentally retarded child in the study displayed consistent massive soil ingestion over four days of 48, 61, 51, and 4 grams of soil respectively.<sup>2</sup> In one case study, a child is documented to have suffered near-fatal organophosphate intoxication from the ingestion of soil contaminated with parathion.<sup>3</sup> According to Calabrese and Stanek,

*"these data suggest that soil pica may vary considerably both between and within individuals and are consistent with observations that generalized pica behavior is common in normal children, but may be more prevalent and of longer duration in mentally retarded children"*<sup>4</sup>.

In 1994, using the data gathered in their Amherst study, Calabrese and Stanek simulated a 365 day soil ingestion rate for each child and tabulated the frequency of days when over 1 g of soil was ingested.<sup>5</sup> The predictions generated by the model "indicated that the majority (62%) of children will ingest  $\geq 1$  gram of soil on 1-2 days/year, while 42% and 33% of children were estimated to ingest  $\geq 5$  and  $\geq 10$  grams of soil on 1-2 days/year, respectively."<sup>6</sup>

According to Calabrese and Stanek, these results are significant because they suggest "that soil pica is not merely truncated in a small subgroup, but that most children will periodically display this behavior to varying degrees of potential public health concern throughout the year."<sup>7</sup> The researchers conclude that:

*"If soil pica is seen as an expected, although highly variable, activity in a normal population of young children, rather than an unusual activity in a small subset of the population, its implications for risk assessment become more significant. . . ."*

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<sup>1</sup> Calabrese 1997. See also Calabrese 1995, and Calabrese 1989. Calabrese and Stanek are international experts on the ingestion of soil by children, and two of a handful of researchers who have ever published scientific studies on the topic.

<sup>2</sup> Wong, 1988.

<sup>3</sup> Quinby 1961.

<sup>4</sup> Calabrese 1997

<sup>5</sup> Stanek, 1995.

<sup>6</sup> Calabrese 1997

<sup>7</sup> Stanek 1995, p. 284.

While 95% of small children may ingest, on average over time, 200 mg soil/day or less, their soil ingestion behavior can include episodic ingestion of 250 times that amount or more. In establishing soil screening levels and clean-up goals for exposure scenarios that can include contact with soils by small children, it seems reasonable to take this behavior into consideration.”

Calabrese and Stanek published a paper in 1997 which assessed whether acute toxic effects could result from the intentional ingestion of soil contaminated at levels equal to EPA's Superfund Soil Screening Levels for residential cleanups. The Screening Levels are intended by EPA to be broadly applicable and conservative, even under circumstances in which children may have extensive soil contact, such as residential yards, school playgrounds, or day care facilities. They are based on a soil ingestion rate of 200 mg soil/day for children.

Calabrese and Stanek tested the protectiveness of EPA's residential Soil Screening Levels against the possibility of a child ingesting 5, 25 and 50 grams of soil in one day. To reduce uncertainty in the assessment, the researchers used only chemicals for which direct evidence of human toxicity is available. For nine of the chemicals reviewed, it was discovered that the amount contained in 5-50 grams of soil contaminated at the Screening Level concentration is within the reported range of toxic effect for humans. These included barium, cadmium, copper, lead and nickel. For four of the chemicals, cyanide, fluoride, phenol, and vanadium, the ingested dose from 25 grams of soil was found to exceed amounts reported to result in death.

Dr. Calabrese's conclusion based on this study is that if chemical residues are allowed to remain in soil up to the concentrations allowed in existing EPA cleanup standards, (and especially if state standards are relaxed to meet EPA's standards or be even more lenient), inevitably, a soil pica day will be matched with the existence of toxic levels of residual contamination, and some child is going to get very sick or die.

In a potentially vicious cycle, high-end rates of intentional soil ingestion by children appear to be associated with developmental disorders. Therefore, the possibility exists that children who suffer from developmental disabilities due to their residence at a contaminated site may continue to exacerbate their exposure through behavior triggered by the contaminants themselves.

In closing, we believe that based on these comments, EPA should reevaluate the proposed soil cleanup plan for the Omaha Lead Superfund Site. The information that we have provided strongly suggests that soils in all Omaha yards where children may play should be remediated to a level at or preferably below 400 ppm.