New Research Shows Metal Exposure from Laundered Shop Towels May Exceed Permissible Levels Set by the EPA for Metals in Drinking Water

*Presented at the Society of Toxicology Annual Meeting and ToxExpo, Gradient study advances research regarding metal residues, such as lead, on shop towels after commercial laundering*

SAN FRANCISCO—March 14, 2012—Gradient, a nationally recognized environmental and risk science consulting firm, today presented new data that show metal exposure from use of laundered shop towels may exceed the permissible levels allowed in drinking water. Gradient presented a poster describing its findings at the annual Society of Toxicology Annual Meeting and ToxExpo, which is taking place from March 11 through 15 in San Francisco. The poster describes exposure to metals on shop towels and compares the exposure to toxicity criteria established by governmental agencies. Millions of manufacturing workers routinely use shop towels on the job.

According to the new research, manufacturing workers using a typical number of shop towels may be exposed to metals such as lead, chromium, cadmium and antimony at levels many times above those allowed by the maximum contaminant levels (MCLs) or, in the case of lead, the action level (AL) for drinking water. The U.S. Environmental Protection Agency (EPA) promulgates drinking water standards under the *Safe Water Drinking Act* to protect public health. An MCL, or AL for lead, is a legally enforceable limit which drinking water must meet. Suppliers of drinking water such as municipalities must address exceedances of MCLs, or the AL for lead, by taking corrective action and informing consumers.

“Our analysis indicates that shop towel users may unknowingly ingest higher amounts of metals than what is allowed in drinking water,” said Barbara Beck, Ph.D., DABT, principal at Gradient. “It is important for safety managers and plant workers to understand metal contamination levels in laundered shop towels so they can make informed decisions about their use.”

**Workers May Unknowingly Ingest Heavy Metals from Contaminated Shop Towels**

As recognized by multiple federal agencies such as the U.S. EPA, people can transfer contaminants from their hands to their mouths and ultimately ingest the invisible residues. The new Gradient analysis presented at the Society of Toxicology meeting compares the potential for heavy metal ingestion from shop towels to levels that may be consumed in water at drinking water limits. In the case of lead, daily intake from shop towels may be up to 21 times higher than the intake that would be associated with the lead action level.

Freshly laundered shop towels have been shown to be contaminated with metal residues, which may transfer to the hand during common usage, and can migrate to the mouth and be ingested at levels which exceed those allowed in drinking water.
The MCL and AL analysis advances Gradient’s research, which has been ongoing since 2003. Gradient has found that workers using the typical number of shop towels daily were exposed to seven metals—antimony, beryllium, cadmium, cobalt, copper, lead and molybdenum—that may exceed health-based limits. The same study found heavy metal residues in all of the laundered shop towels tested.

Kimberly-Clark Professional commissioned the 2011 Gradient study and the research presented by Gradient at the Society of Toxicology meeting. Both studies are based on analysis of data from laundered shop towels submitted by 26 North American manufacturing companies to an independent testing lab.

For more information, go to [http://www.thedirtonshoptowels.com/](http://www.thedirtonshoptowels.com/).

About Gradient
Gradient is an environmental and risk science consulting firm with nationally recognized specialties in toxicology, epidemiology, risk assessment, product safety, contaminant fate and transport, and environmental chemistry. It assists national and global clients in resolving their complex problems relating to chemicals in the environment, in the workplace and in consumer products. Gradient’s principals and senior scientists are nationally recognized experts and active contributors to the promotion of sound science. For more information, go to [www.gradientcorp.com](http://www.gradientcorp.com).

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