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Emerging Contaminants —Chemical Unknowns

Have you ever opened a new shower curtain? That distinct smell contains several chemicals that continue to be released with heat and humidity generated from showering. Household cleaners, hobby supplies, air fresheners, even shampoo; more than 85,000 chemicals are commercially available in the United States. Of these less than 10 percent have been tested for human health and environmental concerns and more chemicals are introduced to this number each year. Emerging contaminants of concern (ECOC) are substances that have been detected in humans or other living organisms, have been found to be toxic in some way, or are persistent in the environment. Therefore, the substance may have the potential to cause adverse effects on human health or the environment. An example of one emerging

Examples of ECOC

phthalates
perfluorooctanoic acids
brominated flame retardants
nanoparticles
pharmaceuticals
and personal care products

contaminant that is beginning to receive wide-spread attention is polybrominated diphenyl ethers (PBDEs) a chemical that has received extensive use as a flame retardant in computer casings, carpet pads, furniture and the like. PBDEs leach out of the items in which they were added and can travel great distances. They have been found

as far away as the Antarctic. Scientists have also discovered PBDE levels in humans are 10 to 100 times higher in the U.S., the worlds largest producer of PBDEs, than in Europe.

Analyzing for Emergents—LC/MS/MS or Triple Quadrupole Mass Spec is an important technique in the quantitative evaluation of newly discovered and understood Emergents at low and previously unachievable concentration levels. Paragon has purchased the most broadly capable, sensitive and robust LC/MS/MS instrumentation available thereby allowing us to provide sensitive, accurate, highly selective and highly defensible data. Perchlorate analysis is currently available and explosives analysis is expected to be available soon.

For information on emerging contaminants visit <http://toxics.usgs.gov/regional/emc/>.

For additional information on Paragon visit www.paragonlabs.com.

Analysis of the Month

Asbestos in Soil

For the month of June, DataChem Cincinnati is offering **20% off our Asbestos in soil analysis.**

This month's special is offered through our Cincinnati laboratory. For further information contact the Cincinnati laboratory at 1-800-458-1493 or email amristich@datachemlabs.com.

To take advantage of the offer simply refer to the newsletter in your analytical request. Discount is only available at our Cincinnati laboratory.

DataChem—Much More than Industrial Hygiene

Our mission—to promote human health and preserve the environment - to that end our laboratories offer a wide array of services.

Our environmental analysts are committed to provide support for ongoing monitoring services and site investigation to both government and private clientele.

Our radiochemistry lab provides ongoing support of Department of Energy decommissioning, remediation and monitoring projects as well as providing analysis for hazardous or radioactive samples from groundwater monitoring, landfill evaluation and RCRA closures.

Our mycology experts routinely work with site investigators analyzing for mold contamination before and after remediation.

Our dietary supplement specialists provide years of industry knowledge providing insight and discovery to contaminants in products as well as maintaining front-line knowledge in current regulatory laws and requirements.

No matter what your analytical needs may be DataChem is your one stop for information. Our staff not only continues to remain up to date on methods, improvements and instrumentation; they are committed to method research and development. Numerous NIOSH methods were developed by our Salt Lake facility and new methods are constantly being tested within our labs.



Of the more than 85,000 chemicals commercially available less than 10% have been evaluated for their impact on health.

Health Hazards on Construction Sites

Construction site workers are exposed to various health hazards throughout the construction process. Some of the potential hazards that construction workers routinely face are:

Synthetic Mineral Fibers (SMF) are a series of products made from fiberglass, rockwool and ceramic. SMF materials are used in large quantities for insulation and sound reduction. Initially there were concerns that SMF would have health consequences similar to asbestos. Although the long-term health hazards are not as prevalent as asbestos exposure, SMF has been linked to respiratory irritation and lung cancer.

Wood dust contains a high amount of formaldehyde, a suspected carcinogen. Adequate ventilation, personal protective equipment and a dust extraction system help minimize the risk.

Solvent use on the worksite can have various health concerns depending upon the length of exposure and the specific chemicals in the solvents. Material Safety Data Sheets (MSDS) should be readily available to all construction site employees. The information contained in the MSDS will help determine what level of protection is necessary.