

# Hexavalent Chromium

**Introduction:** Hexavalent Chromium is encountered in welding of stainless steel, use of refractory bricks, battery production, pigments, catalysts, electroplating, textiles, tanning, wood preserving and industrial water treatment. Toxicity of hexachrom in dust, fumes and mists is a health concern. WHO, DHHS, USEPA, and IARC have determined that Hexavalent Chromium causes lung cancer in humans. In addition, mucous membranes and skin ulcers and perforation of the nasal septum occur.

**Problem:** There is a need for analytical services to support Hexavalent Chromium workplace exposure evaluation.

**Solution:** DataChem Laboratories, Inc. offers low-level analysis of Hexavalent Chromium in Industrial Hygiene and Environmental matrices using methods NIOSH 7605, OSHA ID 215 and EPA 7196.

The Occupational Health and Safety Administration published their final standard on hexachrom in February 2006 setting the PEL to  $5\mu\text{g}/\text{m}^3$  with an action level of  $2.5\mu\text{g}/\text{m}^3$  over 8 hours.

**DataChem was involved with developing NIOSH method 7605 and is proficient at providing hexachrom analysis**

- ◆ DataChem Laboratories performs hexachrom analysis using OSHA ID 215
- ◆ NIOSH 7605 and EPA 7196 can also be requested
- ◆ DataChem is a premier analytical method research laboratory and was selected by NIOSH to perform and evaluate NIOSH 7605. Our research led to the publication of this method.

OSHA  
ID 215

NIOSH  
7605

EPA  
7196

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# DataChem Laboratories, Inc.

DataChem Laboratories, Inc. was previously the Analytical Chemistry Department of the Utah Bio-medical Test Laboratory (UBTL). UBTL was founded in 1971 as part of the University of Utah Research Institute to perform artificial heart research. When Federal funding for heart research ended in 1974, UBTL established an analytical chemistry laboratory. In 1983 UBTL became a privately held company, and in 1986 incorporated its Analytical Chemistry Department into a new entity—DataChem Laboratories, Inc.

DataChem was one of the first private laboratories in the U. S. to offer industrial hygiene testing utilizing NIOSH and OSHA methods, and has served NIOSH as a contract laboratory continuously since 1974. In the early 1980's, we entered the expanding environmental analytical chemistry arena to provide support for the growing Environmental Protection Agency (EPA), Department of Defense (DOD), and private industry regulatory compliance needs.

DataChem has become one of the largest providers of environmental and industrial hygiene testing services in the country. Today, we provide services to government, corporate, and private clientele. DataChem has clients throughout the United States and enjoys a nationwide reputation for quality and legally defensible data.

## Environmental Project Experience

The DataChem Laboratories, Inc. Environmental division provides analytical services for a variety of clientele under various regulatory programs, using both published and laboratory developed methods supporting RCRA and CERCLA preliminary assessments, feasibility studies, environmental investigations, environmental compliance support, remedial investigations, and environmental monitoring programs.

The Environmental Laboratory performs analyses on a wide range of sample matrices including soil, sludge, hazardous and potentially hazardous waste, groundwater, surface water, potable water, and wastewater. In addition, DataChem performs analyses on many atypical sample types.

## Industrial Hygiene Project Experience

The DataChem Laboratories, Inc. Industrial Hygiene division provides comprehensive analytical services. An extensive array of both NIOSH and OSHA analytical methods is applied routinely. In addition, methods are available from EPA, ASTM, and AOAC along with improvised, innovative methods that are adapted to situation-specific requirements.

In support of industrial hygiene programs, indoor air quality assessment, odor detection, and other types of air testing, DataChem analyzes air samples collected with cylinders, Tedlar bags, filters, impingers, solid sorbents, passive monitoring badges, SUMMA canisters, and special solutions, and is licensed to perform applicable analyses on samples from potentially radioactive sites.

## Mycology Project Experience

The DataChem Laboratories, Inc. Mycology division provides a range of services to accommodate the emerging diverse field of microbial investigations. As public awareness has increased over the years, DataChem has responded by providing a product with meaningful substantiated investigative uses.

As Industrial Hygiene investigators continue to encounter unique sampling environments, DataChem assists their efforts by performing both mycological and bacterial analysis on a variety of sample matrices. Analytical services not only include standard microbial culture techniques and microscopy methods, but incorporate spectrophotometry and GC/MS analytical methodology as well.

## Radiochemistry Project Experience

Paragon Analytics, a division of DataChem, has been a leading provider of radiochemistry, mixed waste, and environmental analytical services for nearly 15 years and is licensed by the State of Colorado to receive and handle radioactively contaminated samples. Paragon has supported numerous Department of Energy decommissioning, remediation, and monitoring projects as well as analyzing potentially hazardous and/or radioactive samples from groundwater monitoring, landfill evaluation, and RCRA closures.

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