

ENVIRONMENTAL CHEMIST (ORGANIC)

DISTINGUISHING FEATURES OF THE CLASS: Under supervision of a higher level professional, an incumbent of this position is responsible for conducting various environmental organic chemical and physical analysis of water, wastewater, soil and other environmental samples, and for planning and coordinating the work of subordinate laboratory personnel performing these examinations to insure that all tests adhere to established quality control standards of proficiency. The incumbent must maintain a satisfactory rating of performance for those procedures for which approval has been granted to the laboratory by the New York State Department of Health. Supervision is exercised over subordinate laboratory personnel. Does related work as required.

EXAMPLES OF WORK: (Illustrative Only)

Supervises and instructs subordinate professional and technical staff in the organic environmental chemistry analyses of water, wastewater, soil, and other environmental samples, including pesticides, herbicides, THM's, volatile and semi-volatile organics, gasoline, oil, and other toxic organic pollutant analyses;

Performs and interprets organic environmental chemistry analyses of drinking water supplies, natural and treated waters, wastewaters and estuarine waters for pesticides, herbicides, P.C.B.'s, halogenated organics and other toxic and priority pollutants using approved methods incorporating high performance liquid chromatography and capillary gas chromatography utilizing electron capture, and flame ionization detectors. Extraction, separation and cleanup procedures are utilized to isolate target analytes and achieve detection sensitivity;

Performs statistical analyses (e.g., linear regression, standard deviation) utilizing duplicate and spiked samples;

Performs analyses on quality assurance reference samples as required by current guidelines;

Performs complex analyses on problem samples that require special treatment to optimize results and eliminate interference;

Supervises and instructs trainees and subordinate staff in the performance and interpretation of environmental chemistry analyses;

Assists in researching, analyzing and evaluating the applicability of new procedures, techniques, equipment and instrumentation;

Compiles, evaluates and interprets the results of examinations ensuring the adherence to quality assurance standards;

Maintains quality control through the preparation and standardization of reagents and standards, and the generation of standard curves using reference and primary standards;

Tabulates statistical data for monthly and other reports;

Maintains adequate inventories of laboratory equipment and supplies;

EXAMPLES OF WORK: (Illustrative Only) (Cont'd.)

Prepares reports of examination of findings for various federal, state and local government authorities as well as private concerns;

Maintains assigned areas, instrumentation and equipment in a clean and safe manner and at operational readiness; troubleshoots and does repairs when necessary;

Participates in the New York State Department of Health Proficiency testing programs in the assigned area of discipline;

May be required to testify in court or before other administrative hearings regarding results of examinations;

May perform environmental bacteriology examinations and inorganic chemical analyses as needed;

Uses computer applications or other automated systems such as spreadsheets, word processing, calendar, e-mail and database software in performing work assignments;

May perform other incidental tasks, as needed.

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES:

Thorough knowledge of environmental organic chemistry laboratory procedures, techniques and safety precautions; good knowledge of the principles and practices of organic environmental chemistry terminology; good knowledge of instrumental methods of analysis such as high performance liquid chromatography, capillary column gas chromatography, mass spectrometry, electron capture, and flame ionization detector systems, liquid-liquid extraction, and purge and trap system techniques; knowledge of current developments in environmental laboratory science; skill in the use, operation and care of laboratory equipment; ability to operate, maintain and troubleshoot modern GC/MS systems; ability to plan, organize and supervise the work of subordinate laboratory personnel in the performance of laboratory tests and examinations; ability to research new methods and procedures and to prepare reports of findings; ability to compile and present data in a clear and concise manner; ability to communicate effectively both orally and in writing; ability to follow detailed oral and written instructions; ability to read, write, speak, understand, and communicate in English sufficiently to perform the essential duties of the position; ability to use computer applications such as spreadsheets, word processing, e-mail and database software; accuracy; thoroughness; dependability; initiative; judgment; integrity; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: A Bachelor's Degree* in Chemistry, Chemical Engineering or a Biological Science, which must have included twenty credits in chemistry, and four years of professional environmental organic chemistry laboratory experience**, or related chemistry experience with instrumentation or methodology used in an environmental organic chemistry laboratory, using a gas chromatograph-mass spectrometer system.

SUBSTITUTION: A Master's Degree* in Chemistry, Environmental Science, Environmental Engineering or related field may be substituted for one year of the above required environmental organic chemistry experience.

**NOTE: Acceptable professional environmental organic chemistry experience includes performance of volatile and/or semi-volatile analyses on water, wastewater and soils, utilizing gas chromatography, GC-Mass spectrometry, and high-pressure liquid chromatography in accordance with EPA methods and New York State Environmental Laboratory Approval Program (ELAP) protocols.

*SPECIAL NOTE: Education beyond the secondary level must be from an institution accredited or recognized by the Board of Regents of the New York State Education Department as a post-secondary, degree-granting institution.

NOTE: Unless otherwise noted, only experience gained after attaining the minimum education level indicated in the minimum qualifications will be considered in evaluating experience.