

SENIOR ENVIRONMENTAL CHEMIST (ORGANIC)

DISTINGUISHING FEATURES OF THE CLASS: Under general supervision of the Chief-Environmental Laboratory Services, the incumbent in this class organizes and directs the activities of a specialized area of Environmental Chemistry involving various environmental organic chemical and physical analyses of water, waste-water, soil and other environmental samples; performs advanced environmental examinations as well as initiating, coordinating and conducting independent scientific research of new and improved methods and procedures for increased sensitivity and specificity. This position is directly responsible for the coordination of all operations. Supervision is exercised over a number of professional and technical environmental laboratory personnel. The incumbent must maintain a satisfactory rating of performance by the New York State Department of Health for those procedures for which approval has been granted to the laboratory. Does related work as required.

EXAMPLES OF WORK: (Illustrative Only)

General:

Assists in preparing environmental laboratory budget requests by identifying needs, gathering and compiling appropriate justifications, and evaluating new instrumentation and equipment as to its applicability for environmental laboratory organic work;

Responsible for overseeing installation of new equipment and instrumentation as well as to its implementation for laboratory uses;

Provides consultation and advice to local health department personnel, local water company personnel, private companies and private individuals regarding sampling and analyses programs;

Directs and participates in training personnel in the organic laboratories;

Assures the maintenance of procedure manuals, quality control manuals, and instrument manuals;

Assures the maintenance of statistical data in a manner that will facilitate orderly storage and retrieval;

Responsible for the daily, monthly and other reports requested from the organic laboratory;

Directs and participates in analyzing quality assurance samples as mandated by federal and state guidelines to maintain laboratory certification;

Keeps abreast of current trends as well as changes in the field of environmental science that may effect operations;

Responsible for maintaining assigned areas, instrumentation and equipment in a clean and safe manner and at operational readiness;

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

May be required to give expert testimony in court or before other administrative hearings regarding results and methodology;

Responsible for maintaining N.Y.S. laboratory approval for those parameters for which approval has been granted to the organic laboratory;

Directs the flow of work into the laboratory as well as the workload assignments;

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.

Organic Preparation:

Plans, directs, coordinates and participates in researching, developing and initiating new approved and improved methods for use in the pretreatment of water, wastewater, fish tissue, soil sediment and other related environmental samples to remove interference and to improve sensitivity and specificity;

Directs, plans, develops and initiates field sampling collection methods and establishes sample preservation protocols;

Directs, plans and initiates protocols for submitting samples to the laboratory, accessioning samples and the recording and reporting of results;

Chromatography Instrumentation:

Reviews samples and sample extractions prior to instrumental chromatographic analysis for organic parameters such as pesticides, herbicides, trihalomethanes, and toxic substances;

Responsible for installation of new equipment and modifying old equipment as needed;

Directs the utilization of the gas chromatographs and the interfacing of them to detectors, instrument to purging devices and detectors to integrators; evaluates column supports and coating materials; determines instruments operating parameters;

Directs and participates in the identification and quantitation of chromatographs;

Gas Chromatograph-Mass Spectrometry-Data System:

May participate in the operation of the Gas Chromatograph-Mass Spectrometer-Data System;

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES:

Thorough knowledge of the principles, practices, techniques, procedures and applications of environmental organic chemistry; thorough knowledge of the theory and practice of liquid chromatography, gas chromatography and mass spectrometry; good knowledge of basic statistical calculations as they apply to environmental chemistry; good knowledge of federal, state and local laws, rules, regulations and policies as they apply to the operation of the environmental laboratory; knowledge of the operation and maintenance of a modern GC/MS quadrupole system; knowledge of computer systems and languages used in the acquisition, processing and quantitation of mass spectral data; ability to plan and conduct independent professional scientific research to improve laboratory methods and procedures and prepare comprehensive reports of findings and recommendations; ability to plan, organize and supervise the utilization and work assigned professional and technical laboratory personnel; ability to understand, follow and explain technical guidelines; 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 or a Biological Science which must have included twenty credits in Chemistry and either: (a) a Ph.D.* in Organic Chemistry and three years of professional environmental organic chemistry laboratory experience**, or closely related organic chemistry experience in instrumentation and methodology used in an environmental organic chemistry laboratory**, including at least two years in a supervisory position; or (b) a Master's Degree* in Chemistry, Environmental Engineering or related field and four years experience as stated in (a), including the two years of supervisory experience; or (c) six years experience as stated in (a), including the two years supervisory 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 protocols.

*SPECIAL NOTE: Education beyond the secondary level must be from an institution recognized or accredited 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.

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Job Group: XIII