

ENVIRONMENTAL CHEMIST (AIR POLLUTION)

DISTINGUISHING FEATURES OF THE CLASS: Under the supervision of a higher level professional, the incumbent of this class performs advanced air pollution examinations as well as initiating, coordinating and conducting independent scientific research of new, improved or approved methods, procedures or standards. The position is directly responsible for maintaining and evaluating quality control. Supervision is exercised over subordinate professional and technical environmental laboratory personnel. 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 and the United States Environmental Protection Agency.

EXAMPLES OF WORK: (Illustrative Only)

Supervises and instructs subordinate professional and technical staff in the environmental chemistry analyses of air pollution samples and other environmental materials for gases, particulates, metals, volatiles and semi-volatiles;

Performs and interprets air pollution chemistry analyses of gas, particulates and other air pollution samples using approved methods incorporating liquid and gas chromatography, atomic absorption, spectrophotometry and wet chemistry utilizing extractions, digestions, separations and cleanup procedures to achieve necessary sensitivity and detection limits;

Performs statistical analyses (e.g., linear regression, standard deviation, etc.) utilizing spiked samples, duplicate samples, replicates and method of additions to evaluate analysis and instrument data;

Performs analyses on quality assurance reference samples as required;

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 air pollution 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 insuring the adherence to quality assurance standards;

Prepares samples for analysis utilizing most effective or appropriate techniques;

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

Tabulates statistical data for monthly and other reports;

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;

Maintains adequate inventories of laboratory equipment and supplies;

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

Satisfactorily participates in proficiency testing programs in assigned areas of discipline.

REQUIRED KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES: Good knowledge of the principles, techniques, procedures and applications of air pollution chemistry; good knowledge of environmental air pollution chemistry laboratory operations including methods, equipment and procedures; good theoretical and practical knowledge of instrumental methods of analyses by atomic absorption spectroscopy, gas chromatography, liquid chromatography, UV-Vis Spectroscopy, and colorimetry; good knowledge of current developments in air pollution chemistry; good knowledge of basic statistical calculations as they apply to air pollution chemistry; good knowledge of federal, state and local laws, rules and regulations and policies as they apply to the operation of the air pollution laboratory; 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 of work of assigned professional and technical laboratory personnel; ability to communicate effectively, both orally and in writing; ability to follow detailed oral and written instructions; dependability; initiative; judgment; integrity; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: Graduation from a recognized college or university with a Bachelor's Degree* in Chemistry or Biological science which must have included twelve credit* hours in chemistry and either: (a) three years of professional environmental air pollution chemistry laboratory or closely related chemistry experience in instrumentation or methodology used in an environmental air pollution laboratory which must have included one year of supervisory experience; or (b) a Master's Degree* in Chemistry, Environmental Science, or Environmental Engineering and two years of the above experience stated in (a) including the one year of supervisory experience.

*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 Department of Education as a post-secondary, degree-granting institution.

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Job Class Code: C2230
Job Group: XI