

## **CHEMIST**

### **General Statement of Duties**

Performs professional and technical chemistry work in a wastewater treatment plant laboratory necessary for the monitoring of municipal wastewater operations.

### **Distinguishing Features of the Class**

An employee in this class performs a variety of advanced chemical, biological, and microbiological tests designed to produce safe operation of domestic and commercial water and waste treatment. Work includes troubleshooting process problems, conducting complex laboratory procedures, preparing necessary reports and maintenance of records and files in a state-certified laboratory, and acting in the absence of the supervisor. The employee is subject to hazards associated with wastewater and chemical work including exposure to electrical current and chemicals, fumes, odors, dusts, mists, gases, and poor ventilation. The employee may be required to wear a respirator. Work is also subject to the final standards of OSHA on blood borne pathogens. Work is performed under regular supervision and is reviewed for conformance to testing and reporting procedures, regulatory requirements, and accuracy.

### **Duties and Responsibilities**

#### **Essential Duties and Tasks**

Analyzes samples from the wastewater plant and water plant for quality assurance by performing such tests as residual and total chlorine, effluent fecal chlorine, BOD levels, conductivity, percent solids, total suspended solids, Van Kleeck reduction, total phosphate, metaphosphate, orthophosphate, pH and alkalinity, ammonia-nitrogen levels, fecal coliform plating, iron, manganese, Total Coliform/Fecal Coliform and other analyses on plat and industrial samples when needed.

Interprets laboratory tests, prepares bench sheets, and enters data into spreadsheets.

Performs quality control program on equipment and supplies to assure reliable test results; maintains laboratory equipment in proper operating order; prepares reagents, glassware and standards.

Performs general lab duties by maintaining the lab area, performing inventory and ordering supplies as necessary. Prepares requisitions for purchases.

Consults with, informs, and advises plant personnel about controls to be used, defects found, or changes in treatment process; participates in problem-solving regarding process control; conducts methodology experiments to identify process control strategies.

Operates a variety of equipment including DO meter, pH meter, NH<sub>3</sub>-N meter, spectrophotometer, stir/hot plates, oven, incubator, balance, filtration assemblies, titration assemblies, water bath, autoclave, UV light sterilizer, handheld UV furnace, and furnace.

Prepares documentation for water and wastewater plant laboratory inspections/audits; prepares and electronically submits results for Distribution Colisure samples; prepares monthly reports for the Town Board.

Assists with plant operations as needed to include checking pumps, collecting samples, setting up samples, checking RAS flow and clarifier sludge depth, DO analysis of oxidation ditch and effluent discharge into creek; inspects and maintains lab safety equipment and safety stations.

#### **Additional Job Duties**

Performs additional duties as assigned.

### Recruitment and Selection Guidelines

#### Knowledges, Skills and Abilities

Extensive knowledge of modern laboratory techniques, materials, and equipment, including those used in complex chemical and biochemical analysis of wastewater.

Considerable knowledge of the principles of organic and inorganic chemistry.

Knowledge of the application of information technology including spreadsheets to the work.

Knowledge of the operations and chemical and biological processes of a wastewater treatment plant.

Skill in collaborative conflict resolution and customer contact.

Ability to read and interpret technical federal guidelines on wastewater treatment procedures and tests.

Ability to operate complex laboratory equipment.

Ability to interpret Town ordinances and state regulations related to water and wastewater treatment and industrial pretreatment.

Ability to prepare laboratory reagents and assemble laboratory apparatus for chemical and biological analysis.

Ability to take water and sewage samples and perform the necessary laboratory tests.

Ability to prepare and keep accurate records and prepare reports.

Ability to understand and carry out oral and written instructions.

Ability to perform mathematical calculations and record data accurately.

Ability to establish and maintain effective working relationships with peers, superiors, and contracting agencies.

#### Physical Requirements

Must be able to perform the basic life functions of stooping, crouching, reaching, standing, lifting, fingering, grasping, talking, and repetitive motions.

Must be able to perform light work exerting up to 20 pounds of force occasionally; and/or up to 10 pounds of force frequently, and/or a negligible amount of force constantly to move objects.

Must possess visual acuity to prepare and analyze laboratory results, data, and figures, to operate a microcomputer, and to perform visual inspection of measurement devices.

#### Desirable Education and Experience

Graduation from an accredited college or university with a bachelor's degree in chemistry, environmental science or related field, and considerable laboratory experience; or an equivalent combination of education and experience.

#### Special Requirement

Bacteria certification; QA certification.

Possession of a valid North Carolina driver's license.