

**CHEMIST 3****Nature of Work**

Under limited supervision, performs professional work at the supervisory and/or highly specialized advanced level coordinating the work of chemists and support staff in a laboratory setting and/or conducting complex chemical laboratory tests and analyses on raw, natural or processed substances using chemical and physical laboratory procedures in order to determine composition or deviation from standards. Develops analytical procedures or standards for compliance with regulations governing health, safety and purity. May be exposed to hazardous or unknown substances. Assignments may be made in the areas of construction materials, chemical waste and pesticides, preventive health and water pollution. Performs related work as required.

**Distinguishing Characteristics**

May be distinguished by supervision of chemists and support staff including review of laboratory test reports and operating records, and by developing procedures and standards, and non-standard tests and analyses. May serve as an expert in a highly specialized area of organic chemistry involving the use of automated equipment or involving the formulation of specialized techniques, quality assurance, definitions, and procedures and standards.

**Examples of Work**

- Plans and directs the activities of laboratory chemists in the performance of complex tests on a variety of materials to determine composition, purity and compliance with legal standards.
- Reviews and approves sample analysis reports submitted by subordinate personnel to ensure accuracy, procedures compliance, and to recommend changes or administrative follow-up.
- Performs direct chemical analysis work similar to subordinate chemists; evaluates problematic sample results to determine error or unusual substance.
- Evaluates and implements alternative test procedures and new techniques; develops test standards and guideline material for staff use.
- Prepares reports on test results; may prepare reports on unit activities; recommends major equipment purchase and priorities.
- Advises laboratory staff on proper procedures, problems and complex test interpretation.
- Operates a variety of standard chemical laboratory equipment and may calibrate and make or arrange minor repairs.
- Coordinates laboratory tests with field technicians and other units; consults with other units on technical problems relating to chemical analysis or test findings.

**CHEMIST 3 (CONT'D)****Knowledge, Skills and Abilities**

- Knowledge of the theories, principles, methods, and accepted practices associated with chemical analysis.
- Knowledge of advance laboratory practices and procedures, and of safety measures used to handle samples, supplies and equipment.
- Knowledge of statistics common to chemical analysis and reporting.
- Knowledge of general supervisory practices and policies.
- Ability to select, perform, and train others in chemical tests and sequenced analyses, in data verification and interpretation of findings.
- Ability to locate and correct problems with samples and tests, to prepare accurate reports, and to explain corrective measures to other chemists.
- Ability to analyze laboratory procedures, decide on the best alternatives, and to recommend improvements to individual tests and sequence processes.
- Ability to read and comprehend detailed instruction manuals and procedure manuals, and to use a variety of sources to develop modifications and improvements in procedures.
- Ability to explain chemical tests and procedures to lay persons, both on a routine basis and under cross-examination in a court of law.
- Ability to communicate with others, both verbally and in writing, and to maintain favorable work relationships and public contacts.

**Minimum Qualifications**

**TRAINING:** Graduation from an accredited four-year college or university with a major in the basic or natural sciences and eighteen (18) semester hours (27 quarter hours) in chemistry.

**TRAINING FOR THE DEPARTMENT OF HEALTH AND HUMAN SERVICES, OFFICE OF LABORATORY SERVICES:** Bachelor's degree from an accredited four-year college or university plus eighteen (18) semester hours (27 quarter hours) in chemistry.

**EXPERIENCE:** Three years of full-time or equivalent part-time paid experience in benchwork in a laboratory.

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