

CHEMIST 2

KIND OF WORK

Second-level professional work performing chemical analysis in a laboratory setting.

NATURE AND PURPOSE

Under limited supervision, an employee in this class is responsible for performing complex chemical analysis, making observations, taking measurements, and interpreting results. Performs independently, conducting a variety of tests and measurements and may specialize in the use or operation of a particular complex analytical system. May provide leadwork direction to lower level Chemists and technical staff. Performs related work as required. This class is differentiated from a Chemist 1 in that it performs more complex analysis while operating as a subject matter expert and may direct the work of other professional Chemists. It differs from the class of Chemist Supervisor in that it does not formally supervise staff.

EXAMPLES OF WORK (A position may not include all the work examples given, nor does the list include all that may be assigned.)

Analyze chemical and physical non-routine laboratory samples so that analysis is completed within a timely and accurate manner by making use of methods and priorities established by the agency; performing analysis of portions of various organisms and other materials for toxic substances, such as heavy metals; performing analysis of milks, cheeses, dips and related dairy products, detailing methods used and consulting about problem samples with inspection personnel; making physical and chemical analysis of surface and potable waters, industrial wastes, sewage, and other materials involving known or potential pollution problems; making non-standard chemical analysis of dairy and food products, feeds, fertilizers, determining toxicity and /or fitness for sale; rechecking samples that are non-conforming; providing direction to others in conducting analysis of samples where results are predictable.

Apply required chemicals, equipment and supplies so that analysis is carried out with minimum delays by calling attention to any deficiencies in chemicals, supplies, or equipment; reporting malfunctions to supervisory staff; maintaining equipment to ensure proper test results and response to clientele; making tests for penetration, ductility, specific gravity, and viscosity; operating complex analytical systems as a specialist; ensuring that proper equipment is used to guarantee proper test results.

Implement quality control measures so that the laboratory and clientele are assured of the reliability of results by preparing fresh known standards, spiked samples, replicate analysis, and sample splits with cooperation of outside laboratories; developing, implementing, and recording test procedures for accurate test results; conducting research on new techniques and procedures to keep measurements accurate and meet clientele needs; making comparisons with certified standards; taking care in handling and processing samples.

Write reports of results of laboratory analysis to satisfy the needs of the laboratory and clientele by tabulating sample registration and analytical notebooks; completing analytical forms; appearing in court making use of written documents as a state witness; drafting memos and detailed written reports as dictated by analysis and clientele needs.

Answer technical and informational questions from clientele concerning sampling, analysis, or interpretation so that questions are answered to the satisfaction of the clientele by documenting all analytical procedures; assisting other governmental agencies or private companies in performing comparable chemical analysis or procedures; communicating a working knowledge of procedures and chemical and biological systems when answering questions.

Advise staff and provide work direction to professional and technical laboratory personnel so that work is performed with accuracy and in a safe and efficient manner by training new staff in safety procedures; providing work direction to other professional Chemists and technical staff; participating in training programs to improve professional knowledge within the area of chemical analysis.

KNOWLEDGE, SKILLS, AND ABILITIES REQUIRED

Knowledge of:

Principles, procedures, and techniques of analytical chemistry sufficient to carry out assigned complex chemical analysis in the laboratory and to advise others on techniques and procedures to use.

Chemical laboratory test equipment sufficient to choose, operate, and maintain equipment for use in assigned chemical analysis and to act as expert in the use of one or more complex laboratory apparatus.

Ability to:

Organize, analyze, and present data from research with scientific accuracy and thoroughness sufficient to present results of analysis to supervision and to keep clientele informed as needed.

Understand, follow, and make use of complex oral and written directions, formulas, and charts sufficient to assemble, draft, and finalize research material and perform required complex chemical analysis as well as to direct staff in the preparation and analysis of samples.

Establish and maintain effective working relationships at all levels inside and outside the organization sufficient to foster communication and meet goals and objectives.