

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES ▼
HUMAN RESOURCES ENTERPRISE

CHEMIST

DEFINITION

Performs professional, scientific laboratory work examining and analyzing physical properties of matter to insure conformity with public health, consumer protection, or business standards or regulations; performs related work as required.

The Work Examples and Competencies listed are for illustrative purposes only and not intended to be the primary basis for position classification decisions.

WORK EXAMPLES

Performs quantitative and qualitative chemical analyses of foodstuffs, feeds, fertilizers, pesticides, highway materials or equipment which includes testing for concentrations of nitrogen, vitamins, drugs, minerals, etc., using such laboratory instruments as liquid and gas chromatographs, ultra-violet spectrophotometers, and semi-automated analyzers.

Treats numerical data throughout chemical analysis by performing mathematical calculations such as determining concentrations (molarity, parts per million, normality, etc.) and statistical information (variance, standard deviation, mean, correlation coefficient, etc).

Prepares necessary reagents and equipment to expedite the performance of analyses by measuring and/or weighing chemicals, mixing and standardizing solutions, and assembling equipment.

Maintains work area and equipment free of chemical and/or microbiological contamination to insure validity of test results and safety of work environment.

Maintains accurate records by logging samples received, recording samples analyzed, procedures used, and results obtained in daily worksheets and laboratory notebook.

Weighs and calculates samples in the physical and chemical analysis of products using scales and measured volumetric containers.

Performs microscopic analysis of food and dairy products, feeds and fertilizers to determine the physical properties of the substances being analyzed using slides and microscopes.

Attends staff meetings, maintains records and writes reports as required by agency and federal regulations; inventories equipment, chemicals and supplies.

Modifies analytical procedures in order to conduct analysis of unusual samples and ensure valid results by reviewing professional literature, consulting with supervisor and other chemists, and/or using own innovation.

Keeps abreast of current developments in the field of analytical chemistry by reviewing literature and attending staff meetings, conferences, and classes.

COMPETENCIES REQUIRED

Knowledge of the principles of chemistry.

Knowledge of current practices and procedures used in chemical laboratory analysis.

Knowledge of standards, guidelines, laws, and methods governing procedures utilized in the analysis of physical matter.

Knowledge of laboratory equipment used in physical and chemical analysis.

Knowledge of policies and procedures pertaining to writing technical reports.

Knowledge of safety practices needed in handling chemicals, electrical equipment and glassware.

Ability to perform analytical techniques so that results are accurate and precise.

Ability to exactly follow detailed written procedures such as those found in chemical journals or analytical manuals in order to learn new laboratory procedures and methods.

Ability to plan and coordinate a variety of laboratory assignments.

Ability to prepare a variety of chemical reagents used in analysis.

Ability to judge appropriateness of existing procedures and modify to fit special situations.

Manual dexterity and coordination sufficient to handle delicate glassware without excessive breakage.

Visual acuity sufficient to read fine markings on microliter syringe and other instruments.

Displays high standards of ethical conduct. Exhibits honesty and integrity. Refrains from theft-related, dishonest or unethical behavior.

Works and communicates with internal and external clients and customers to meet their needs in a polite, courteous, and cooperative manner. Committed to quality service.

Displays a high level of initiative, effort and commitment towards completing assignments efficiently. Works with minimal supervision. Demonstrates responsible behavior and attention to detail.

Responds appropriately to supervision. Makes an effort to follow policy and cooperate with supervisors.

Aligns behavior with the needs, priorities and goals of the organization.

Encourages and facilitates cooperation, pride, trust, and group identity. Fosters commitment and team spirit.

Expresses information to individuals or groups effectively, taking into account the audience and nature of the information. Listens to others and responds appropriately.

EDUCATION, EXPERIENCE, AND SPECIAL REQUIREMENTS

Graduation from an accredited four-year college or university with major course work in chemistry, biochemistry or a closely related chemical science;

OR

a combination of education and experience substituting one year of employment in the capacity of a laboratory technician at an advanced level in a chemistry laboratory for one year of the required education with a maximum substitution of four years;

OR

employees with current continuous experience in the state executive branch that includes experience equal to four years of full-time work as a Laboratory Assistant 3.

Effective Date: 4/98 BW