**Chemist** **Standard Job #1320-07**
**GS-1320-07**

## A. Major Duties

Typical, but not all-inclusive, duties are illustrated by performance of any combination of the following:

Performs experiments which are designed to provide answers for specific research problem areas.

Searches literature for methods to meet assignment objectives.

Selects the proper methods and procedures according to the experimental design.

Carries out measurements and analyses by applying established chemical methods.

Analyzes the results according to established principles and procedures.

Modifies methods, if necessary, to solve problems or make improvements. Typically, minor modifications are required.

Writes periodic laboratory reports discussing experimental procedures and results.

Maintains official laboratory notebooks in accordance with good laboratory practices.

Undertakes routine care, maintenance, and calibration of moderately complex laboratory instruments, e.g. centrifuges, HPLC instrument, UV-VIS spectrometer, ion-selective meter.

Maintains general laboratory cleanliness and, supplies and materials appropriate to research work.

## B. Evaluation Factors

### l. Knowledge Required by the Position

Professional knowledge of the principles, theories, and practices of chemistry, physics, and mathematics including calculus.

Knowledge of established chemical methods and procedures sufficient to perform routine and limited analyses and tests by applying established methods and procedures.

Skill in calibrating and operating standard and sophisticated analytical instrumentation and equipment.

Skill in independently applying established and newly developed methodology to chemical and physical analyses.

Ability to detect unusual or erroneous results.

Skill in analyzing results and interpreting significant impact and validity of tests and experiments.

Skill in evaluating established methods and making minor modifications.

**2. Supervisory Controls**

Supervisor provides continuing assignments, sets objectives, and indicates priorities and provides technical direction. The supervisor provides additional, specific instructions for new, difficult, or unusual assignments including suggested work methods or advice on source material available.

The incumbent is responsible for independently completing recurring projects but refers deviations or problems not covered by instructions to the supervisor. Situations requiring significant deviations are referred to the supervisor.

Completed work is reviewed for adherence to instructions, established laboratory procedures, and technical soundness of results. New or unusual assignments may be reviewed in progress.

**3. Guidelines**

Guidelines are the technical literature and precedents that are applicable to the work. These guides do not always specifically apply to the work. Incumbent must exercise judgment in selecting the most appropriate guides and references and must adapt established precedents to the specific requirements and problems encountered.

The incumbent analyzes the results to ensure that the changes are valid and may recommend and implement further changes.

**4. Complexity**

Assignments involve a variety of limited research tasks. Judgment and initiative are required in planning details of work, deciding how to collect and present results, determining methods and techniques to use and making minor modifications.

The incumbent must consider various factors such as the chemical and physical properties of the sample, the information sought, and the expected composition and properties of the substances to select from established alternatives the appropriate procedures to be adopted.

**5. Scope and Effect**

The work involves performance and development of specific experiments, analyses and measurements in support of the research project objectives.

The results of the work affect the scientific adequacy and accuracy of the research project.

**6. Personal Contacts and**
**7. Purpose of Contacts**

Personal contacts are principally with scientists within the immediate work unit or other laboratories at the location. Occasionally, contacts with scientists outside the location may be required.

Contacts are for the purpose of obtaining, clarifying, or exchanging information, receiving instructions or reporting progress and results of work.

**8. Physical Demands**

The work requires standing for prolonged periods of time.

**9. Work Environment**

The work is performed in a laboratory and involves regular and recurring exposure to irritant chemicals. Special safety precautions are required such as fume hoods, etc. Incumbent uses protective clothing and equipment such as safety glasses, gloves, and laboratory coats when needed.

## C. Other Considerations (Check if applicable)

[ ] Supervisory Responsibilities (EEO Statement)
[ ] Training Activities - Career Intern, Student Career Experience Program
[ ] Motor Vehicle or Commercial Driver's License Required
[ ] Pesticide Applicators License Required
[ ] Safety/Radiological Safety Collateral Duties
[ ] EEO Collateral Duties
[ ] Drug Test Required
[ ] Vaccine(s) Required
[ ] Financial Disclosure Required
[ ] Special Physical Requirements/Demands
[ ] Other:

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