

## CHEMISTRY TECHNICIAN I

This is beginning level technical support work in a chemistry laboratory or university hazardous material facility performing a limited number of routine and standardized tasks and duties, usually without the responsibility for a complete technical function or significant segment of a project.

Employees perform specific assignments with clear and detailed instructions with little or no use and application of chemical theory to evaluate and interpret results. Work includes using a limited number of simple to operate laboratory equipment that normally requires very little adjustment; performing a very limited number of routine and standardized wet, treatment or instrumental methods and procedures of generally low complexity; and preparing samples, reagents, standard solutions and quality control test samples along with washing glassware and cleaning laboratories a significant portion of their time.

Methods, procedures and tests performed include a limited combination of titration, gravimetric, volumetric, colorimetric and other prescribed methods and tests such as viscosity, tensile strength, melting point and particle sizing. Samples used are usually in substantial or easy to work with concentrations with little or no interference between reagents and sample substances. At hazardous material facilities, employees assist in the full spectrum of hazardous materials management to include the transport, segregation, treatment and shipment and disposal of hazardous waste. Employees operate under specific and detailed guidelines and do not make any deviations, modifications or extensions in the methods and procedures they use. All work is closely controlled and reviewed for technical accuracy. Work may include other duties and responsibilities as assigned.

### I. DIFFICULTY OF WORK:

Complexity - Employees conduct a limited variety of established, well documented and standardized wet, treatment or instrumental procedures of relatively low complexity. Instrumental analyses are often highly automated and require primarily loading the sample, unloading and recording the results. Work is generally very repetitive and includes preparing the more routine samples, reagents, standard solutions and quality control test samples, along with cleaning glassware and performing other laboratory maintenance. At hazardous material facilities, repetitive tasks include performing duties associated with the transport, segregation and preparation of waste for disposal and/or shipment.

Guidelines - Employees use a limited variety of established and standardized guidelines including standard procedure and methodology manuals, laboratory operating procedures and instrument handbooks. Guidelines are specific and directly applicable to all aspects of work.

### II. RESPONSIBILITY:

Accountability - Employees normally have very little or no direct contact with outside agencies, private firms or the general public. Their work is reviewed very thoroughly before it leaves the laboratory. At hazardous material facilities, employees have contact with campus laboratory employees to confirm the proper storage, segregation and labeling of chemicals prior to transport.

Consequence of Action - An error in preparing a sample, reagent or standard solution, or in conducting a wet or instrumental analysis would probably be caught by review within the laboratory. Normally, an error would result in redoing the procedure or preparing the sample or solution again. When transporting hazardous materials, inappropriate labeling, storage or segregation of chemicals may result in property damage or injury to individuals.

Review - Work is reviewed by other laboratory personnel who use the reagent, standard solution or sample prepared by employees, or by the laboratory or hazardous material facility supervisor or lead chemist/technician who checks the work for technical accuracy both in progress and at completion.

### III. INTERPERSONAL COMMUNICATIONS:

Subject Matter - Employees perform their work in a chemistry laboratory and primarily have contact with other laboratory personnel and at hazardous material facilities contacts are primarily with campus laboratory personnel. Instructions given to employees are usually clear, detailed and straightforward, concern the relatively less complex procedures, and include very limited chemical theory.

Purpose - Employees receive instructions from laboratory, hazardous material facility supervisors or lead chemists/technicians, and report all standard or unusual results to them.

### IV. WORK ENVIRONMENT:

Nature of Working Conditions - Working conditions can vary from a relatively clean and safe chemistry laboratory requiring only minimal safety precautions, to a laboratory that exposes employees to high risks and potentially dangerous situations and requires the use of a wide range of safety precautions.

Nature and Potential of Personal Hazards - Employees may work with irritant chemicals, acid fumes, infectious or carcinogenic materials and a wide variety of laboratory equipment and glassware. Some discomfort is ongoing but the likelihood of severe or fatal injuries is very small if safety precautions are followed.

### V. RECRUITMENT STANDARDS:

Knowledges, Skills, and Abilities - Working knowledge of the basic principles, concepts and reference sources used in the laboratory application of chemistry and other related physical sciences. Working knowledge of scientific methodology and of the hazards involved in laboratory procedures along with related safety practices. Some knowledge of the laws and regulations governing the transport of hazardous materials. Ability to independently perform and record routine and limited complexity laboratory tests and procedures. Ability to express technical information clearly, both orally and in writing, when reporting results to others. Ability to perform basic mathematical calculations, understand and follow oral and written technical instructions, to perceive colors normally and to make olfactory distinctions, and the ability to establish and maintain effective working relationships.

Minimum Training and Experience Requirements - High school or General Educational Development diploma and one year of directly related chemistry laboratory experience; or an equivalent combination of education and experience.