CHEMISTRY TECHNICIAN II

This is journey level technical support work in a chemistry laboratory, field operation or university hazardous material facility performing a number of routine tasks and duties including the responsibility for a complete small technical function or project.
Employees perform continuing individual assignments with set deadlines, priorities and quality and quantity of work expected, and normally with a very limited use and application of chemical theory to evaluate and interpret results. Work includes operating and calibrating a number of laboratory instruments and equipment which requires moderate adjustments during operation; making minor repairs to the less complex laboratory equipment and instruments; performing a range of routine and standardized wet or instrumental methods and procedures of moderate complexity; and preparing samples, reagents, standard solutions and quality control test samples along with washing glassware and cleaning laboratories a portion of their time. Methods, procedures and tests performed include a combination of titration, gravimetric, volumetric, colorimetric, IR, UV and visible spectroscopy and other prescribed methods and tests such as simple extractions, viscosity and other physical procedures. Samples used are often in moderate or somewhat difficult to work with concentrations. At hazardous material facilities, employees determine the appropriate segregation, storage, treatment, packaging and disposal of hazardous waste. Work may also include instructing or training lower level technicians in methods, procedures and techniques on a limited basis. Employees have most of their work reviewed for technical accuracy, methods used and compliance with instructions and established procedures. They may choose guides and references from a variety of standard procedure, methodology and instrument manuals, and may on occasion make very limited deviations, modifications or extensions to these procedures. Employees may assist a chemist on the more complex methods but would not be responsible for conducting and interpreting the results of these procedures themselves. Work may include other duties and responsibilities as assigned.

I. DIFFICULTY OF WORK:

Complexity - Employees conduct a variety of established, well-documented and standardized wet, treatment or instrumental procedures of low to moderate complexity. Instrumental analyses are often highly automated and require primarily loading the sample, unloading and recording the results. Work is generally repetitive and includes preparing a wider range of samples, reagents, standard solutions and quality control test samples. Employees normally are responsible for certain ongoing portions of laboratory or hazardous material facility functions or analyses.

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

II. RESPONSIBILITY:

Accountability - Employees in laboratory operations normally have little direct contact with outside agencies, private firms or the general public. Employees may however, work in a field operation and have considerable contact with other agencies, departments or private firms. Work is generally reviewed thoroughly before it leaves the laboratory or any regulatory action is taken. At hazardous material facilities, employees have contact with campus laboratory personnel and private haulers regarding the proper labeling, storage, segregation and packaging of waste.

Consequence of Action - An error in conducting a wet or instrumental analysis, or in preparing a sample, reagent or standard solution would probably be caught by review within the laboratory or by review of test results and reports. An error could result in limited time, material or financial loss if not

caught, and often results in redoing the procedure or preparing the sample or solution again. Improper storage of hazardous materials may result in property damage or injury to individuals and/or additional costs for re-packaging, transport delays or refusal of shipments by vendors. Poor record keeping of hazardous material processing may result in fines being levied against the university.

Review - Most work is reviewed both in progress and at completion for technical accuracy, methodology and compliance with instructions and established procedures. Work is also reviewed by other laboratory personnel who use the reagents, standard solutions or samples prepared by employees.

III. INTERPERSONAL COMMUNICATIONS:

Subject Matter - Employees perform their work in a chemistry laboratory, hazardous material facility or field operation. In the laboratory they primarily have contact with other laboratory personnel while in the field they have contact with non-technical private individuals. At hazardous material facilities, employees have contact with technical and non-technical individuals regarding the management and handling of hazardous materials. Instructions given to employees are usually clear and detailed although sometimes employees are given more generalized objectives, priorities and instructions on quality and quantity of work expected. Employees perform low to moderately complex chemical procedures including the use of limited chemical theory.

Purpose - Employees receive instructions from laboratory or hazardous material facility supervisors or lead chemists and report standard and unusual results to them. Employees in field operations or hazardous material facilities may have to explain results or procedures to non-technical private individuals and/or campus employees.

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, theories 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. Working knowledge of the rules, regulations and guidelines governing the transport, packaging and disposal of hazardous materials. Ability to independently perform and record standardized and moderately complex laboratory tests and procedures. Ability to express technical information clearly, both orally and in writing, when reporting results and explaining procedures to others. Ability to perform 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 - Associate's degree in one of the chemical, biological, microbiological, environmental or natural resource sciences or a closely related curriculum including related chemistry laboratory coursework from an appropriately accredited institution; or an equivalent combination of education and experience.