

# Chemists

| Job Code | Job Title   | Pay Grade |
|----------|-------------|-----------|
| 8147C3   | Chemist II  | 26        |
| 8148C3   | Chemist III | 29        |

## CONCEPT:

Professional work involving chemical analyses or experiments in laboratories.

## TASKS:

- Prepares complicated solutions, standards and reagents for use in testing and studies.
- Analyzes feeds and fertilizers to determine the content of protein, nitrogen, fat, and other elements and compounds.
- Performs chemical and physical analyses of plants, cements, paper, soap, paint, metals, textiles, oils and a variety of other materials for conformance with specifications or other quality standards and requirements.
- Performs chemical and physical analyses of materials such as concrete, ferrous and non-ferrous metals, lime products, paint pigments and vehicles, soils, borings of chloride analysis, and lubricating oils and grease.
- Performs radioimmune assay or radiochemical analysis on a variety of health or environmental samples.
- Conducts analytical and physical tests on materials for highway maintenance and construction to determine conformance with specifications and requirements on product composition and durability.
- Performs chromatographic analysis of pesticides in a variety of matrices to determine presence, absence and concentration for conformance with specifications, for state and federal regulatory compliance and for quality of state waters such as lakes, streams and reservoirs; interprets and evaluates data obtained and prepares reports of findings.
- Analyzes biological fluids and tissues for biochemical constituents such as lipids, enzymes, proteins, carbohydrates, electrolytes and similar compounds.
- Performs instrumental analyses on a variety of matrices to determine the chemical composition in drinking water, sewage effluents, lakes, streams and soils.
- Performs biochemical, serological and immunological tests for the diagnosis of diseases or inborn errors of metabolism.
- Performs tests for the detection and analyses of radioisotope species in a variety of samples using instrumental methods.
- Instructs laboratory staff in methods and techniques; ensures that analyses are conducted according to prescribed methods and accepted standards of laboratory practice.
- Performs and conducts complex analyses for organic and inorganic substances using sophisticated laboratory instruments such as gas chromatography/mass spectrometry, inductively coupled plasma spectrometry, scanning electron microscopy or high-performance liquid-gas chromatograph.
- Performs and conducts applied research to develop new or improved methods, techniques and procedures for laboratory analyses.

## LEVELS OF WORK

- Class Group consists of two classes.

**Chemist II** – Involves conducting a variety of chemical and physical tests on an assortment of different sample matrices. Performs analytical procedures to determine the qualitative and quantitative makeup of chemical compounds or the application of physical tests to determine the physical attributes of substances.

**Minimum Requirements:** Bachelor's degree in a Natural Science field with a minimum of 25 hours chemistry and six months of experience in chemistry. Experience in the natural science field may be substituted for the required education as determined relevant by the agency.

**Chemist III** – At this level, employees have responsibility for directing a specialized unit of a laboratory section or the operations of several units. Performs specialized chemical laboratory test that may require additional training. Reviews and evaluates the work of other chemists, determines laboratory needs, and prepares laboratory budget. Employees apply professional judgment to developing, modifying or adapting standards, criteria, methods, tests, or analytical procedures in areas where standardized procedures have not been established.

**Minimum Requirements:** Bachelor's degree in a Natural Science field with a minimum of 25 hours in chemistry and two years of experience in chemistry. Experience in the natural science field may be substituted for the required education as determined relevant by the agency.

REF: 12/13  
REV: 6/16