

Position Summary

This summary describes the organization, duties, and requirements of a State of Michigan vacancy.

Position Code: TOXGSTAA14R

Civil Service Class and Level: Toxicologist-A

Working Title (What the agency calls the position): Senior Toxicologist

Name and Position Code Description of Direct Supervisor: ; ENVIRONMENTAL MANAGER-3

Department/Agency: ENVIRON, GREAT LAKES & ENERGY

Bureau (Institution, Board, or Commission):

Division: Materials Management

Section: Hazardous Waste

Unit: Technical Support Unit

Work Location (City and Address)/Hours of Work: 525 West Allegan Street, Lansing, Michigan / 8:00 a.m. to 5:00 p.m.
Monday through Friday

General Summary of Function/Purpose of Position: The general purpose and function of this position is to serve as the recognized resource for toxicological and risk assessment expertise to the state hazardous waste management program, under Part 111, Hazardous Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). This program controls and regulates toxic substances in the environment, related to the management and disposal of hazardous waste, and remedial activities for release of contaminants associated with hazardous waste facilities.

The focus of this position is on complex and/or controversial actual and potential risks due to releases of toxic substances in various media such as air, ground and surface water, soils, waste, and wastewater. This position is responsible for assessing hazards and risks at sites of environmental contamination, developing cleanup criteria for emerging contaminants, new hazardous substances, and evaluating human health, ecological, and environmental risks from toxic substances associated with Part 111 licensing, compliance monitoring, enforcement, and remedial activities required for closure and corrective action. As the recognized resource, this position provides toxicologist expertise to Division staff regarding risk assessment issues related to Part 111, Part 201, Environmental Remediation, and Part 31, Water Resources Protection, of Act 451, and the Resource Conservation and Recovery Act of 1976 (RCRA), including the application of the Part 201 criteria. As the recognized resource, this position also provides toxicological and risk assessment expertise for the regulated community and general public.

Assigned duties and tasks for each duty.

Duty 1: As the recognized resource, provide toxicology and risk assessment expertise for the Division regarding risk assessments at sites of environmental contamination in order to protect human health and the environment.

- Review and evaluate complex and/or controversial Part 111 work plans, reports, and risk assessments associated with corrective measures studies and corrective measures implementation to determine human health and environmental risks, along with providing written comments and recommendations as needed.
- Serve as a toxicological resource to the Division regarding the development and application of Part 201 vapor intrusion, particulate release to ambient (outdoor) air, and soil volatilization to ambient air.
- Provide toxicological information and assistance to Division staff, the U.S. Environmental Protection Agency (U.S. EPA), consultants, and the regulated community to assist, coordinate, or facilitate investigation and remediation of environmental contamination.
- Independently apply appropriate risk assessment methodologies for generating Part 201 cleanup criteria for hazardous substances.
- Independently explain and defend toxicological findings to Division staff, the scientific community, the regulated community, the public, and as a witness in court if necessary.
- Participate in meetings to provide toxicological, risk assessment, and associated technical advice regarding Part 111 facilities, Part 201 cleanup criteria application, and general Division policy.
- Provide ecological risk assessment information and support to Division staff, the scientific and regulated communities, and public as required.

Duty 2: Serve as a resource person to the Division for Part 111, Part 201, Part 31, and RCRA risk assessment issues.

- Serve as a toxicological resource to Division staff on Part 111 and its administrative rules, along with the sections of Part 201 and its administrative rules that pertain to cleanup criteria and application of cleanup criteria for Part 111 closures and corrective actions.
- Compile and analyze data on the physical, chemical, and toxicological characteristics of chemicals, and provide interpretations to staff, the U.S. EPA, and/or facilities.
- Maintain an advanced level of knowledge of toxicological mechanisms and risk assessment procedures via training, review of federal guidance, professional literature, and personal contact with federal agencies and outside professionals.
- Attend professional meetings and conferences as necessary to maintain knowledge of best available and current toxicological practices.
- Maintain an advanced knowledge of the Division programs (e.g., sampling strategies and statistics, non-aqueous phase liquids, land use and resource use restrictions, mitigation and other exposure controls, etc.) that are relevant to the application of cleanup criteria. This understanding is necessary for appropriate determination and application of cleanup criteria.

Duty 3: Serve as the Division liaison for interdivisional toxicological activities.

- Serve as a member of the interdepartmental Toxics Steering Group (TSG), and present information as needed. The TSG consists of toxicologists employed by the Department, Department of Health and Human Services, and Department of Agriculture and Rural Development. Chair the TSG and TSG work groups as needed.
- Serve as the Division toxicologist representative on interdivisional toxicological committees to review such as the per fluorinated compounds workgroup, and TSG subcommittee for benzo(a)pyrene EPA draft review regarding inhalation values.
- Serve on interview committees, as needed, for the hiring of new toxicologists into the department.
- Coordinate the development or review of Part 201 criteria (both site-specific or for hazardous substances without criteria) at Division facilities between Remediation and Redevelopment Division, Water Resources Division, Air Quality Division, the Department laboratory, and consultants.
- Serve as Remediation and Redevelopment Division support for Part 201 criteria development and review as the criteria update cycles are expected to be ongoing.
- Serve as subject matter expert during Part 201 criteria update public rollout meetings and public hearing.
- Foster and maintain departmental and external professional relationships for networking and collaboration.
- Participate in professional scientific conferences to broaden scope and expertise in toxicology- and risk assessment-related issues and make presentations, as appropriate, at venues such as the Society for Environmental Toxicology and Chemistry National Meeting

Duty 4: Complete specialized projects/assignments as directed by the Unit Supervisor or Section Manager.

- Serve as a core member on the Division Remediation Advisory Team (RAT). The RAT is comprised of Division members recognized for their expertise in remediation issues.
- Author toxicological briefing papers and information updates on critical risk assessment issues as needed for the Division, EGLE, the U.S. EPA and other involved parties.
- Develop hazardous constituent limits as needed.
- Provide backup to the Division staff representative that serves on the Remediation and Redevelopment Division, Vapor Intrusion (VI) Technical and Program Support (TAPS) team.
- Assist with revisions of Corrective Action Memorandum of Understanding with the U.S. EPA Region 5 to identify specifications for use of Part 201 cleanup criteria for RCRA corrective action (equivalency), and Eco-risk aspects.
- Complete other assigned tasks, as necessary.

Types of decisions made independently and whom or what those decisions affect: Determination of adequacy and appropriateness of the more complex and controversial risk assessment proposals from regulated facilities. Instructions to project team or facility regarding exposure pathway applicability and/or relevance for investigative purposes. Justification of these determinations is included in official Department communication from the project manager and other project staff to the facilities. Case-by-case assessment of potential impacts to the environment or human health are frequently made based on complex toxicological data sets for licensing, compliance monitoring, and remedial activities required for closure or corrective action. These decisions affect state-wide standards that the regulated community must meet. Technical judgment is used daily for evaluating requirements of state and federal toxic substance control legislation and regulations and how those requirements are applied to the Division programs. These decisions can impact the Department, Division, and the regulated community.

Types of decisions that require the supervisor's review: Controversial or high-profile decisions regarding corrective action and the application of risk-based cleanup criteria. The Unit Supervisor and the Section Manager will always review decisions affecting Division or Department policy or precedent-setting decisions.

Physical effort used to perform this job and environmental conditions of this position: Primarily desk activities such as computer, files, reference research, and telephone use (98 percent of time). Occasional potential exposure to contaminated media during visits to Part 111 facilities (<2 percent of time).

Names and classes and levels of employees whom this position immediately supervises:

The essential functions of this position: To provide independent expertise and toxicological support to both the Section and the Division regarding risk assessment, cleanup criteria and regulatory toxicology in support of the Part 111, Hazardous Waste Program and other areas, such as the Part 115 Solid Waste Program, as needed. Developing knowledge of state regulations regarding environmental cleanup criteria and requirements (Part 201) is essential. To be successful in this position, the following competencies have been identified as essential: technical/professional knowledge, work standards, communication, and continuous learning, decision making, and follow-up.

The function of the position's work area and how it fits into that function: The purpose of the Unit is to provide technical support for licensing, permitting, and corrective action under the Part 111 program. This position provides toxicological and other related technical support for the Part 111 program and other areas, such as Part 115, as needed.

Minimum education, experience, and credentials typically needed to perform the position's essential functions:

EDUCATION:

Possession of a master's degree in toxicology.

EXPERIENCE:

Toxicologist 12

Three years of professional experience in assessing and controlling the impact of toxic substances on human health and the environment equivalent to a Toxicologist, including one year equivalent to a Toxicologist P11.

Alternate Education and Experience

Toxicologist 9 - 12

Possession of a master's degree in a physical, biological, or environmental science with 10 semester (15 term) credits in toxicology, 14 semester (20 term) credits in chemistry (including inorganic, organic and biochemistry), and 24 semester (35 term) credits in any combination of the following: physiology, histology, pathology, statistics, environmental science, microbiology, physical or environmental chemistry (in addition to the above indicated 14 semester credits); anatomy, pharmacology, epidemiology, industrial hygiene, toxicology (in addition to the above indicated 10 semester credits); or, vertebrate biology or zoology may be substituted for the education requirement.

KNOWLEDGE, SKILLS, AND ABILITIES:

Advanced knowledge of the general principles, practices, and procedures of toxicology, biology, chemistry, and risk assessment; ability to utilize available scientific literature to obtain references and information on the physical, chemical, and toxicological properties of chemical substances along with an ability interpret and apply that information ; ability to communicate effectively, both verbally and in writing, on technical and non-technical levels; ability to work with others as part of a scientific team.

CERTIFICATES, LICENSES, REGISTRATIONS:

- 24-hour Hazardous Waste Operators and Emergency Response (HAZWOPER) Training
- 8-hour HAZWOPER Refresher Training
- CPR/First Aid Training (optional, but recommended)
- Valid Michigan Driver's License preferred