

PRIVACY ACT STATEMENT

Pursuant to 5 U.S.C. 552a(e)(3), enacted into law by section 3 of the Privacy Act of 1974 (Public Law 93-579), the following statement is furnished to individuals who supply information to the Nuclear Regulatory Commission on NRC Form 313. This information is maintained in a system of records designated as NRC-3 and described at 40 Federal Register 45334 (October 1, 1975).

1. **AUTHORITY:** Sections 81 and 161(b) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2111 and 2201(b)).
2. **PRINCIPAL PURPOSE(S):** The information is evaluated by the NRC staff pursuant to the criteria set forth in 10 CFR Parts 30, 32, 33, 34, 35 and 40 to determine whether the application meets the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations, for the issuance of a radioactive material license or amendment thereof.
3. **ROUTINE USES:** The information may be (a) provided to State health departments for their information and use; and (b) provided to Federal, State, and local health officials and other persons in the event of incident or exposure, for their information, investigation, and protection of the public health and safety. The information may also be disclosed to appropriate Federal, State, and local agencies in the event that the information indicates a violation or potential violation of law and in the course of an administrative or judicial proceeding. In addition, this information may be transferred to an appropriate Federal, State, or local agency to the extent relevant and necessary for an NRC decision or to an appropriate Federal agency to the extent relevant and necessary for that agency's decision about you.
4. **WHETHER DISCLOSURE IS MANDATORY OR VOLUNTARY AND EFFECT ON INDIVIDUAL OF NOT PROVIDING INFORMATION:** Disclosure of the requested information is voluntary. If the requested information is not furnished, however, the application for radioactive material license, or amendment thereof, will not be processed. A request that information be held from public inspection must be in accordance with the provisions of 10 CFR 2.790. Withholding from public inspection shall not affect the right, if any, of persons properly and directly concerned need to inspect the document.
5. **SYSTEM MANAGER(S) AND ADDRESS:** U.S. Nuclear Regulatory Commission
Director, Division of Fuel Cycle and Material Safety
Office of Nuclear Material Safety and Safeguards
Washington, D.C. 20555

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11:00 AM

APPLICATION FOR MATERIAL LICENSE

Laboratory: Clayton Environmental Consultants, Inc.
25711 Southfield Road
Southfield, MI 48075
(313) 424-8860

5. RADIOACTIVE MATERIAL

<u>Element/ Mass Number</u>	<u>Form</u>	<u>Manufacturer/Model No.</u>	<u>Maximum Millicuries Possessed</u>
Nickel 63	Plated source	Hewlett Packard Model 18713A	15
Nickel 63	Plated source	Hewlett Packard Model 18713A	15
Nickel 63	Plated source	Hewlett Packard Model 18713A	15
Nickel 63	Plated source	Hewlett Packard Model 18713A	15
Nickel 63	Plated source	Hewlett Packard Model 19235B	15
Nickel 63	Plated source	Hewlett Packard Model 19235B	15
Nickel 63	Plated source	Hewlett Packard Model 19235B	15

6. PURPOSE

All sources will be used in gas chromatography units for sample analysis.

7. RESPONSIBLE INDIVIDUALS

J. Douglas Opthoff, Senior Environmental Chemist (resume attached)
Robert Lieckfield Jr., Laboratory Director (resume attached)

We do not propose to perform any maintenance or repair on the gas chromatography sealed source detector systems.

8. TRAINING

All individuals working on the sealed source devices will be under the direction of the individuals named in Item 7.

9. FACILITIES AND EQUIPMENT

All facilities and equipment associated with the use of sealed source equipment will be supervised by the individuals named in Item 7.

10. RADIATION SAFETY PROGRAM

The Radiation Safety Program includes semi-annual wipe tests on all sealed sources. All maintenance and repair is provided by the manufacturer. No maintenance and repair of sealed sources will be conducted by Clayton personnel.

11. WASTE MANAGEMENT

We will comply with all disposal requirements specified in Section 20.301, 10 CFR Part 20.

CONTROL NO. 7 8 6 4 1

Robert G. Lieckfield Jr., C.I.H.
Manager, Laboratory Services

EDUCATIONAL BACKGROUND

B.S., Chemistry
Eastern Michigan University, 1975

Graduate work, Forensic Science
Michigan State University, 1975-1976

PROFESSIONAL EXPERIENCE

Clayton Environmental Consultants, Inc.
January 1979 - present

- (a) Responsible for staffing and administration of AIHA-accredited laboratory, including supervision of over 40 environmental chemists and technicians.
- (b) Experienced in project management involving multi-disciplinary teams. Projects managed include:
 - Collaborative study for ethylene oxide for the Ethylene Oxide Industry Council of the Chemical Manufacturers Association. The method chosen for the study was charcoal tube collection and subsequent gas chromatographic analyses. The charcoal collection method was studied under different challenge concentrations of EO and humidity concentrations, determination of breakthrough volumes, and field validation studies. The program also tested the precision and accuracy of the GC method through a collaborative testing program involving 20 laboratories from industry, consulting firms, government, and academia.
 - Development of multi-purpose sampling media for use at hazardous waste sites.
 - Modified method to separate aromatic/aliphatic organics for occupational exposures to coal tar pitch volatiles.
 - Round-robin free silica method validation for the National Institute for Occupational Safety and Health (NIOSH) through SRI.
 - Collaborative study for methyl chloride, including collection and analysis.

- Conducted inhouse laboratory experiments to study thermal decomposition products of various plastic resins, including styrene. Similar projects have been conducted for glue products.
 - Industry-wide waste characterization survey for an industry association. Over 350 waste streams were sampled and analyzed for EP toxicity (eight metals and six organics).
- (c) Responsible for overseeing quality assurance program, including management of participation in the NIOSH proficiency analytical testing (PAT) program, federal EPA quality assurance programs, and the Centers for Disease Control and State of Michigan quality control programs for biological samples. Revises and updates, as necessary, inhouse quality control manual, ensures that the procedures outlined therein are strictly adhered to, and conducts internal audits of those procedures.
- (d) Responsible for overseeing laboratory safety program, including routine inspections and meetings with department heads to discuss and resolve potential safety problems.

Clayton Environmental Consultants, Inc.
October 1976 - December 1978

- (a) Trace metal analysis of air, water, and industrial contaminants by atomic absorption and flame photometry.
- (b) Experienced in ion-selective electrode methods using chloride, fluoride, ammonia, and cyanide electrodes.
- (c) Experienced in wet chemical techniques, sample preparation, and titrimetric methods of analysis.
- (d) Analysis using ultraviolet and visible spectrophotometric and fluorometric methods.
- (e) Experienced in gas chromatographic analysis of organic compounds.
- (f) Familiar with EPA priority pollutants analyses.
- (g) Research and analytical methods development.

PROFESSIONAL AFFILIATIONS

American Chemical Society
American Industrial Hygiene Association
British Occupational Hygiene Association
American Society of Quality Control
Michigan Industrial Hygiene Society
Board of Directors 1984-1986
AIHA Laboratory Accreditation Committee 1982-1987
Chairman 1985-1986

CERTIFICATION

American Board of Industrial Hygiene (ABIH) in the chemical aspect of industrial hygiene (Certification Number 2130).

PUBLICATIONS AND PRESENTATIONS

With Opthoff, D. Collaborative study for the proposed ASTM monitoring method for ethylene oxide. Presented at the Ethylene Oxide and Formaldehyde--Monitoring and Controlling Exposures symposium at the National Meeting of the American Chemical Society in Washington, D.C. August 29 through September 2, 1983.

With Strandbergh, D., J. Singh, and N.W. Paik. Development of PNA index for oils. Presented at the American Industrial Hygiene Conference in Portland, Oregon. May 1981.

Aromatic/aliphatic separations in determining CTPV compliance. Presented at the American Industrial Hygiene Conference in Portland, Oregon. May 1981.

"Trace Sediments of the Huron River by Atomic Absorption" with S. Brewer - presented to the Michigan Association for the Advancement of Arts and Sciences, 1975.

J. Douglas Opthoff
Senior Environmental Chemist

EDUCATIONAL BACKGROUND

B.S., Chemistry
University of Michigan, 1973

Continuing Education Courses:

Hewlett Packard 5992 GC/MS Operator Training Course, 1978.
Capillary Gas Chromatography (ACS Short Course), 1979.
Waters Associates Liquid Chromatography Training Course, 1979.
University of Michigan Workshop on Analysis of Organic Pollutants, 1984.

PROFESSIONAL EXPERIENCE

Clayton Environmental Consultants, Inc.
August 1979 - present

- (a) Experienced in mass spectral interpretation.
- (b) Experienced in mass spectral analysis of industrial hygiene samples collected on such media as charcoal, Tenax, Chromosorb, XAD resin, and silica gel sorbent tubes and filters.
- (c) Experienced in EPA's NPDES priority pollutant analyses of volatile organics, base-neutrals, acids, and pesticides; also experienced in all sample cleanup/extraction procedures.
- (d) Experienced in the purge and trap technique for volatile organics, including trihalomethanes in drinking water.
- (e) Experienced in the analysis of organic compounds in hazardous waste samples.
- (f) Extensive experience in gas chromatographic analyses for organic solvents, amines, toxic chemicals, pesticides, and polychlorinated biphenyls, using flame ionization, electron capture, flame photometric, thermionic, photoionization, electrolytic, and thermal conductivity detectors. Training and experience in the use of fused silica capillary columns for increased resolution, inertness, and sample through-put in gas chromatography.
- (g) Participation in the validation studies for EPA Methods 601, 602, 501.1, and 501.2. These methods measure trace organic priority pollutants in water and wastewater using purge and trap samplers, liquid-liquid extraction, and gas chromatography with selective detectors.

- (h) Design, improvement, construction, and calibration of a non-methane organics (NMO) analyzer and a condensate recovery system for use with EPA Method 25; total Non-Methane Organics.
- (i) Experienced in field sampling and onsite gas chromatographic analysis of various pollutants, including benzene from coke oven exhaust using EPA Method 110; volatile organic compounds inside a plastics plant; hydrogen sulfide and carbonyl sulfide levels inside a graphite composites plant; organic solvents in exhaust from a printing plant; and ethylene oxide in ambient and exhaust air from a pharmaceutical sterilizer. Responsibilities included setup, maintenance, and repair of the gas chromatograph.
- (j) Experienced in high performance liquid chromatography using ultraviolet absorbance and fluorescence detectors to measure polynuclear aromatics, isocyanates, and other toxic compounds; semi-prep scale work to prepare samples for GC/MS.
- (k) Analysis of trace metals using atomic absorption, flame emission, and spark emission spectroscopy; including supervision of eight analysts performing trace metal analyses.
- (l) Analyses using ultraviolet, visible, fluorescence, and infrared spectroscopy.
- (m) Experienced in wet chemical techniques, sample preparation, and titrimetric methods of analysis.
- (n) Experienced in ion-selective electrode methods using chloride, fluoride, ammonia, cyanide, and pH electrodes.

PROFESSIONAL AFFILIATIONS

American Chemical Society
American Society for Mass Spectrometry

PRESENTATIONS

With Lieckfield, R.G. Collaborative study for the proposed ASTM monitoring method for ethylene oxide. Presented at the National Meeting of the American Chemical Society in Washington, D.C., August 30, 1983, and at the American Industrial Hygiene Conference in Detroit, Michigan, May 25, 1984.

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CONTROL NO. 78641