IEC

Indoor Environmental Concepts, LLC

THE SOLUTION TO ASSESS MERCURY EMISSIONS

IEC Invests in Jerome J505 Mercury (Hg) Meter

THE CONCERN

Mercury Vapor and Health Effects
Transmission • Risks • Requirements

It is well-known that schools nationwide have installed rubberized, polyurethane floors in gyms for decades. While these cushioned floors may be better for feet and bodies, water resistance and aesthetic to the eye, the mercury (Hg) within them has far-reaching effects.

In February 2020, the New Jersey Department of Health (NJ DOH) issued guidelines for school districts to evaluate mercury vapor emissions from installed mercury-containing flooring systems. The document reads in part:

> **Risk Assessment**
> Inhalation is the primary route of exposure to mercury vapor and aerosols. Based on the toxicological information and this regulated risk assessment model, the NJDOH has issued a guidance maximum contaminant level of 0.8 µg/m³ for evaluating mercury in flooring. **This level is protective for children as young as three years old and is based on an exposure frequency of 8-hours per day for 180 days (NJDOH 2017).**

THE SOLUTION

IEC Consulting Services
Experienced • Reliable • Responsive

Having conducted numerous assessments in schools, commercial and industrial settings, IEC has taken a next step in providing clients accurate results with time-sensitive responsiveness in the detection of mercury vapor emissions. IEC's newly acquired Jerome J505 is recognized as the "gold standard" in mercury vapor analysis for a wide range of applications, using state-of-the-art atomic fluorescence that puts advanced mercury detection in the hands of IEC's experienced industrial hygienists.

Jerome J505 Key Features

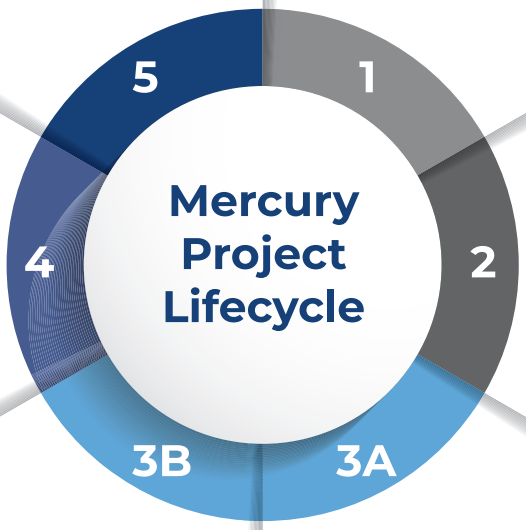
- Sophisticated capabilities of benchtop analyzers in a compact, portable device
- Detects mercury at levels as low as 0.05 µg/m³, which meets and exceeds NJ DOH, EPA and ATSDR standards

Jerome J505 Additional Applications

Ambient Air Analysis • HAZMAT / Emergency Response • Industrial Hygiene & Worker Safety • Regulatory Compliance: Detection & Cleanup • Air Filtration Device (AFD) Efficiency Monitoring • Mercury Exclusion Testing • Light Bulbs & Mercury Switches Equipment Monitoring

Indoor Environmental Concepts, LLC
P: (856) 463-0777 • W: indoorenvconcepts.com

Mercury Project Lifecycle



STEP 1: DETERMINE EXISTENCE OF MERCURY (Hg)

IEC and its Certified Industrial Hygienist (CIH) develops a sampling plan to determine if the rubberized floor contains mercury, including bulk sample collection and analysis.

STEP 2: CONDUCT MERCURY INDOOR AIR SAMPLING

Based on bulk sample analysis, if the results show any level of mercury, then the floor must be treated as mercury containing and air sampling is performed to evaluate the mercury vapor levels.

Airborne mercury levels lower or equal to 0.8 µg/m³

STEP 3A: PROPOSE QUARTERLY SEASONAL AIR MONITORING

IEC implements a quarterly air monitoring program to ensure that the seasonal variability's impact on mercury concentrations is captured.

Airborne mercury levels above 0.8 ug/m³

STEP 3B: DEVELOP A MITIGATION OR REMEDIATION PLAN

Two (2) potential options:
(a) IEC develops a mitigation plan to reduce the mercury vapor levels below 0.8 µg/m³ with HVAC ventilation and temperature control adjustments.

or

(b) IEC develops a remediation plan and specification to safely remove the mercury containing flooring if ventilation adjustments do not sufficiently reduce the mercury vapor levels or the facility owner decides to remove the floor.

STEP 4: CONSIDER HAZARDOUS WASTE DISPOSAL

If a decision is made to remove the mercury containing flooring, IEC collects representative floor samples to determine if it would be regulated as a hazardous waste for proper disposal and regulatory compliance.

STEP 5: IMPLEMENT REMEDIATION PROJECT MONITORING

During removal, IEC manages the remediation contractor's work activities and provides daily and project oversight monitoring, including mercury final air clearance testing for reoccupancy.

ABOUT US

Indoor Environmental Concepts, LLC (IEC) is an industrial hygiene consulting company specializing in environmental inspections of commercial, residential and public properties. IEC is a small business concern founded in 2011 with the purpose of providing expertise in indoor air quality, industrial hygiene, workplace safety and air monitoring for real estate and property management, construction, education, healthcare and manufacturing industries.

The company is led by two experts in the field with more than 60 years combined experience and IEC is one of only a handful of regional firms with a full time ABIH Certified Industrial Hygienist on staff. Together, partners Michael P. Menz, CIH, CHMM and Robert J. DeMalo, M.Sc. manage a skilled team, providing rapid inspection services for environmental investigations in varied fields. In addition, IEC provides guidance to the government on regulatory compliance as well as matters related to ensuring a safe and healthy environment for work and learning.

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117 N. Black Horse Pike, Runnemede, New Jersey 08078
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