IOHA

JULY - SEPTEMBER 2024

GLOBAL EXPOSURE MANAGER

Editor: Maharshi Mehta, CIH, CSP, FAIHA
Email: maharshi.mehta@ioha.net

Code of Practice on Indoor Air Quality

Practical Steps for Workplace Clean Air

Margaret Kirby EHS Correspondent, Health & Safety Review, IRN Publishing
margaret.kirby@irn.ie

The Health and Safety Authority (HSA) in Ireland published its Code of Practice (COP) for Indoor Air Quality (IAQ) during 2023. The Code of Practice is implemented through S.I. No. 255/2023, the Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023. It provides practical guidance for all employers on how to complete an IAQ assessment, and an action plan to address any air quality issues.

The Code is the first of its kind dealing with IAQ to be published by the HSA. The Code was finalized after going through their consultation process with interested parties and stakeholders. A draft of the code was published on the HSA website in 2022, to facilitate affected parties making submissions on the draft. The HSA's consultation process requires that all submissions are evaluated and considered. After this stage, the finalized Code was approved by the Board of the Authority, before being approved by the Minister for Publication as per Section 60 of the Safety, Health and Welfare at Work Act 2005.

The Code sets out in clear steps the expectations for employers when it comes to providing sufficient fresh air, effective ventilation and limiting pollutants. The health effects associated with poor air quality reached prominence during the pandemic, and since then many workplaces have taken measures to improve the quality of indoor air, particularly in enclosed spaces. The requirement to provide sufficient fresh air and maintain ventilation systems remains in the post pandemic era and is set out in the Safety, Health and Welfare at Work (General Application) Regulations 2007, SI 299 of 2007 as amended by SI 255 of 2023.

The Code can also be used alongside other sector-specific advice to ensure the adoption of best practices for Indoor Air Quality (IAQ). By adhering to the guidelines outlined in the code, workplaces can create safer and healthier environments, with additional benefits around improved productivity, reduced absenteeism, and enhanced overall employee satisfaction".

Commenting on the publication of the Code of Practice, Darren Arkins, HSA Program Manager in the occupational health division said "the Health and Safety Authority encourages employers to consult this Code to assist them in evaluating and managing IAQ in their workplace.

Assessment and Control of Indoor Air

This Code outlines how to complete an IAQ risk assessment in the workplace, depending on its complexity. During this assessment, examples of what to look for to identify IAQ concerns are given, including rooms where there is no natural or mechanical ventilation. Data on measurements are also needed, including temperature and relative humidity.

It advises that for most people, an acceptable temperature for office work lies between 18°C – 23°C, and availability of minimum of 4.65 square meters of floor space for every person in the room. It also refers to the use of Carbon Dioxide (CO_2) monitors, which provide a useful visual aid, and states that CO_2 levels consistently higher than 1400 ppm in an occupied room indicates poor ventilation.

Maintaining CO_2 levels below 1000 ppm would likely indicate that an indoor space is adequately ventilated.

After the assessment has been completed, a written IAQ action plan should be completed identifying further actions and control measures, and examples of these are shown in the Code. The Code also contains relevant guidance on ventilation systems and components, carbon dioxide monitors and air cleaning and filtration systems.

Considerations for Initial Indoor Air Quality Assessment:

1. Room or site layout: areas with no natural or mechanical ventilation

2. Temperature and relative humidity: Optimum relative humidity between 40% and 70%.

3. Average CO_2 levels (if available):

4. Mechanical ventilation (if available): Maintenance record of mechanical ventilation and fresh air exchanges

5. Products, materials, equipment and water systems

6. Processes involving/using chemicals

7. External air quality: Measurements for ozone (O_2), nitrogen dioxide (NO_3), sulfur dioxide, Particulate Matter ($PM_{2.5}$) and PM_{10}.

Click here to download the HSA Code of Practice for Indoor Air Quality

IOHA - The National Accreditation Recognition Committee (NARC) Updates

Dr Sharann Johnson AM, COH, FAIOH, Past Chair NARC
sharann.johnson@bigpond.com

Competency in occupational hygiene and growing the numbers of certified occupational hygienists globally has been a key activity for IOHA. The National Accreditation Recognition Committee (NARC) has been charged with this responsibility. In 2024, the NARC revised the Matrix criteria used for assessing the credentialling programs of national associations to reflect the changing world of occupational hygiene.

The 6 criteria used in the Matrix are:

Criteria 1 - Certification Program Administration

Criteria 2 - Code of Ethics & Administration

Criteria 3 - Education and Experience

Criteria 4 - Examination Process

Criteria 5 - Evaluation of the Examination Results

Criteria 6 - Certification Maintenance Process

Criteria 3, Education, now has two pathways available for national associations to select from. The Matrix review was triggered by changes around the world in availability of occupational hygiene education. In particular, the reducing number of universities offering degrees and Master courses in occupational hygiene has meant that other courses can now be considered in making up an education/training portfolio. Hence, national associations who used the original Pathway I (a tertiary degree), can now include Pathway 2 with a education/training portfolio for the assessment of members apply for the certification exams. The OHTA courses and other available courses designed around the fundamentals principles of occupational hygiene can be considered by the national associations as suitable for a education/training portfolio.

The years of experience has increased from a minimum of 4 to 7 years with Pathway 2. It is up to the national association to select the most appropriate criteria for the country.

Criteria 4 – Examination process has been expanded from written exams to include oral exams as well as a combination of both.

Details about the various credentialling programs offered by the NARC member national associations and organisations can be found on the IOHA website, https://www.ioha.net/national-accreditation-recognition-nar/

IOHA is keen to support the national associations to develop their own credentialling programs to recognise competency in their professional membership.

IOHA NEWS

Chief NAR Reviewer position

Samantha Connell, IOHA President,
samantha.connell.cih@outlook.com

The IOHA National Accreditation and Recognition (NAR) Committee has filled a new role titled Chief NAR Reviewer. IOHA is pleased to announce Dr. Sharann Johnson AM, COH, FAIOH, Past Chair NARC as the inaugural incumbent of the new role.

Sharann said "I am proud and delighted to be the inaugural Chief Reviewer for the IOHA NAR committee. This will enable me to support and guide NARC members and national associations through the certification credentialling process. Growing the capacity and competency in occupational hygiene globally is an issue I am passionate about."

Chief NAR Reviewer is a brand-new role that was initiated to manage assessments of national schemes within the NAR, assist new applicants with understanding program requirements and onboarding new NAR members with training to support assessment reviews. IOHA believes this role will streamline the application and review processes and draw in new NAR members, growing the pool of Occupational Hygiene (OH) Competency globally.

Please refer to the below links to learn more about OH Certification and the NAR:
Occupational Hygiene Certification – IOHA

National Accreditation Recognition (NAR) Committee – IOHA

IOHA involvement at EXPO2025

Samantha Connell, IOHA President,
samantha.connell.cih@outlook.com

IOHA is partnering with the Global Initiative for Safety, Health & Well-being (GISHW) in Safety, Health and Well-being (SHW) Days at EXPO2025 in Osaka, Japan from July 16 – 19, 2025.

IOHA's events include:

- World Assembly Workshop in partnership with ICOH: "Climate Change and the Future of Work".
- World Assembly Workshop in partnership with INSHPO: "The Future of OSH Partnerships and Relationships with other professionals.
- Two sessions in the International Symposium Policy and Practice tracks. The policy track session is titled "Advancing Occupational Hygiene Priorities Globally" and the practice track session is titled "Advancing Social Sustainability through Occupational Hygiene".

IOHA encourages anyone interested in supporting to contact IOHA at admin@ioha.net.

Discounted rates are available for:

- IOHA members from low- and lower-middle Income countries are entitled to a 40% reduction in registration fee.
- IOHA members that are officially registered students are entitled to a 60% fee reduction in registration fee
- All other IOHA delegates will be entitled to a special fee reduction of 30%

Click here for more information.

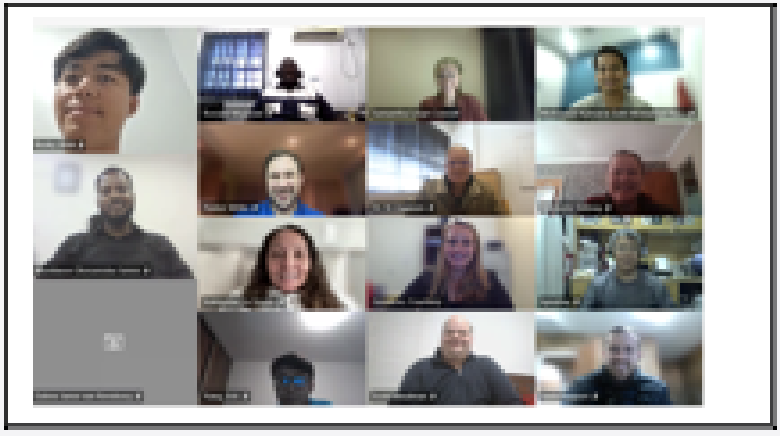
IOHA Webinars

IOHA continued to offer most engaging webinars on unique aspects of occupational hygiene.

Dr Ross Di Corleto PhD, MS, COH, FAIOH, FAIHS Adjunct Associate Professor (University of Queensland & Edith Cowan University) and ***Lawrence Sloan serves as CEO of the American Industrial Hygiene Association (AIHA)*** offered the most engaging webinar on heat stress including AIH's App on heat stress.

Courtney Gendron, MPH, CIH, Lead EHS Consultant, WSP, Canada offered a unique webinar on lessons learned in industrial hygiene in rare earth element mining.

Both webinars received rave reviews. IOHA will continue to offer webinars, complementary to members of IOHA member associations.



IOHA Webinar Participants

Partnership Corner

Samantha Connell, IOHA President, samantha.connell.cih@outlook.com

Three new Memorandums of Understanding (MOUs) have been signed with the following organizations:

Global Initiative for Safety, Health and Wellbeing (GISHW)

Council for Accreditation in Occupational Hearing Conservation (CAOHC)

International Network of Safety and Health Professional Organizations (INSHPO).

IOHA is excited about these partnerships and hopes members, as well as the Occupational Safety and Health (OSH) profession, will benefit from future activities with our new partners.

CAOHC's mission is advancing best practice in occupational hearing conservation worldwide, through credentialing, standards, education, and advocacy. Their vision is a world without occupational hearing loss.

IOHA believes these are fully aligned with our vision of "*a safe and healthy working environment for all" and our mission, which is to "enhance the international network of occupational hygiene organisations that promote, develop and improve occupational hygiene worldwide, providing a safe and healthy working environment for all*".

CAOHC is a great addition to our international network.

CAOHC and IOHA plan to hold workshops and webinars related to various hearing conservation topics that will benefit our respective members.

A few topics have already been identified such as ototoxic chemicals, fit testing for hearing protection, championing the "85/3 campaign", noise exposure and controls, and education of occupational safety and health professionals.

INSHPO is a global alliance dedicated to advancing the OSH profession. Some of INSHPO's aims include: promoting the ongoing development of OSH at a professional level and promoting high standards of ethical practice and competence in the OSH profession.

The partnership between INSHPO and IOHA aims to encourage collaboration between member organizations at regional and international levels. Communications and best practices from both organizations will be shared with each other's respective members.

IOHA believes this is a good opportunity to advance the protection of worker health globally.

IOHA MEMBER UPDATES

Updates from Indonesian Industrial Hygiene Association (IIHA)

The 9th IIHA Connect 2024
Shaping The Future of Industrial Hygienist: Strategies for Success
18th-23rd October 2024, DoubleTree by Hilton, Surabaya, Indonesia

Mila Tejamaya, President, IIHA, mila.tejamaya@gmail.com

The recent **Indonesian Industrial Hygiene Association** event showcased a strong commitment to professional development in occupational hygiene, attracting a diverse group of participants.

The pre-conference events included:

- Occupational Hygiene Training Association (OHTA) in-person course on Measurements of Hazardous Substances
- Five Professional Development Courses (PDCs) on Noise and Vibration Management, Exposure Assessment Framework for Aerosols and their Elemental Composition, Health Impact Assessment, Health Risk Assessment and Ergonomic Risk.

The conference itself brought together a vibrant professional of about 200 participants, fostering networking and knowledge exchange among professionals in the field. Complementing this, an exhibition featuring 12 companies provided attendees with insights into the latest tools and technologies available in occupational hygiene.

Overall, the event was a resounding success, reinforcing the commitment to enhancing occupational health practices through education and collaboration.

IIHA Conference Attendees

Updates from The Association of Industrial Hygienists Nigeria (AIHN)

The AIHN successfully hosted its third webinar of 2024 on Saturday, September 21. Dr. Kevin Hedges, an experienced Occupational Hygienist with over 30 years offered the webinar on Effective Chemical **Control Banding: Strategies for Managing Hazardous Chemicals in the Workplace.**

Dr. Hedges highlighted that Control banding serves as an effective preliminary process that offers guidance for risk management decisions when an authoritative Occupational Exposure Limit is not available.

The AIHN is thrilled to announce that the **AIHN officially became an approved training provider for the Occupational Hygiene Training Association (OHTA)** on the 24th of July 2024. AIHN will be commencing an inaugural OHTA training on the Basic Principles of Occupational Hygiene (OHTA 201) between November 2nd – 6th. This significant step underscores our dedication to nurturing the development of occupational hygiene professionals in Nigeria.

New Zealand Occupational Hygiene Society (NZOHS)

NZOHS conducted two Advance Practice Short Courses on welding fumes and PPE. These courses were primarily targeted at our full members and those wishing to become full members. These workshops provided hands-on sessions where skills can be shared with full or half day courses on a range of topics providing international expertise with a New Zealand focus.

NZOHS Promoted the occupational hygiene profession to students at Auckland University of Technology at their Science Career Expo.

UPCOMING EVENTS

The Association of Industrial Hygienists, Lagos Nigeria (AIHN) Annual Conference 2024, November 7 – November 9, 2024, Port Harcourt, Nigeria

The Association of Industrial Hygienists Nigeria (AIHN) is pleased to inform you that registration for the third (3rd) Annual Conference is now open. This year's Conference promises an exhilarating and enriching experience, with a packed agenda featuring:

- Keynote presentations from industry thought leaders
- Panel discussions on cutting-edge topics
- Networking opportunities with fellow professionals
- Workshops and masterclasses to enhance your skills
- Awards ceremony recognizing outstanding achievements

AIHN Conference Information

New Zeeland Occupational Hygiene Society (NZOHS) Work Related Health Conference 2025

The Conference will be held at Hilton Hotel Auckland from May 26 to May 28, 2025.

The call for the conference abstract presentation is open. Please submit abstracts to events@nzohs.org.nz by 31 January 2025.

IOHA in Español

Asbestos en Latinoamérica

Msc. Armando Chamorro, LEED AP, CIH, CBCP, achamorro@me.com

En la últimas dos décadas, Latinoamérica ha dado algunos pasos incipientes con el fin de remover la infinita cantidad de asbesto (amianto) instalado en edificios, industrias, buques y ferrocarriles tarea que podría llevar décadas en el mejor de los casos. Este retiro responde a necesidades varias, todas bajo un común denominador de reducir los riesgos que implica “dormir con el enemigo". Si bien esta etapa de remoción es diminuta en su dimensión, su continuidad en los diversos sectores que la ejecutan (inmobiliario, Industria y Gobierno) ha comenzado a vislumbrar la realidad a la que se encuentras expuestos trabajadores y ocupantes de edificios, la presencia de este material no solo en calderas, cañerías, techos y hasta pisos vinílicos sino sus diminutas fibras en el aire interior de nuestros edificios.

Ciertos organismos de control en Latinoamérica requieren a los operadores in situ (contratistas habilitados para retirar un contaminante de un edificio) a realizar muestreos de aire como parte de la verificación de condiciones ambientales. EN otros países la figura del operador in situ no existe, siendo el retiro de asbesto ejecutado por empresas sin capacitación y arrojado a basurales a cielo abierto. Tal como ocurre en países con avanzadas políticas de control de asbesto (EE. UU entre otros) estos organismos requieren que, frente a una remoción de este agente cancerígeno, el contratista habilitado por dicho organismo encomiende muestreos de materiales sospechosos y de la calidad de aire interior previo al inicio de remoción del asbesto instalado. La toma de muestras de aire iniciales se conoce como “determinación de línea base de fibras en aire". También se requiere que se efectúen tomas de muestras de aire en las áreas periféricas al sector de remoción durante el retiro y posterior a la limpieza final. Además, se precisa que se evalúe la calidad del aire del depósito transitorio donde se encuentra alojado el residuo, una vez que el asbesto (ya en esta etapa en bolsas selladas) haya sido enviado a disposición final. La comunidad europea avanza ambiciosamente con las metas de identificar y eventualmente retirar el asbesto instalado, tarea que para los que llevamos décadas inspeccionando edificios, sabemos que solo se apunta en el mejor de los casos a techumbre de fibrocemento y calorífugados, en otras palabras a la punta del iceberg. Quedando para cuando sea por relevar los restantes 3000 productos que contienen asbesto. Asimismo los países miembros de la Unión Europea deberán en 2025 y 2029 reducir la exposición laboral al asbesto en sus trabajadores en jornadas de 8 horas diarias, a 0,001f/cm3 y 0,0002 f/cm3 respectivamente. El Reino Unido, que no forma parte de la UE, mira con cierta suspicacia esta legislación y en ciertos casos se aferra a mantener sus propios limites de exposición, en concordancia con países del norte de América.

Para citar un ejemplo en Argentina, lo que arrojan los resultados de cientos de muestras de fibras en aire interior (línea base) analizadas por un reconocido laboratorio internacional con base en este país, amerita un profundo replanteo. La data indica que existen ciertos edificios en los que los niveles de fibras de asbesto en aire que sobrepasan los límites permisibles de exposición de 0,1 fibras de asbesto por centímetro cubico de aire (0,1f/cc). Esta situación, se traduce en la jerga de higiene ocupacional como en una sobreexposición de asbesto en los trabajadores y ocupantes del edificio. Asbesto no es un agente más, sino un contaminante carcinógeno que produce enfermedades cruentas como un Mesotelioma (cáncer del mesotelio) y el cáncer de pulmón, los cuales tienen un

periodo promedio de latencia de 20 años. El periodo de latencia es el tiempo que transcurre desde su exposición a dicho contaminante hasta que se detecta la enfermedad. Además, se produce una fibrosis pulmonar conocida como asbestosis, que limita la capacidad respiratoria en los afectados. He visto muchos de ellos que han venido a mis cursos de formación profesional. En todos los casos, estas microscópicas fibras ingresan al aparato respiratorio y un numero de ellas se aloja quedando retenido cual una espina en un dedo en la zona inferior del aparato respiratorio.

También, los mecanismos de prevención de enfermedades laborales y de salud pública en Latinoamérica ameritan un profundo replanteo. Estos organismos no tienen que ir muy lejos para descubrir donde está el enemigo y su inocente víctima para de una vez por todos reducir la morbilidad y mortalidad por exposición al asbesto. El rol del especialista en salud ambiental o higienista ocupacional, el cual cumple un papel esencial y es requerido en países desarrollados para evaluar exposiciones ambientales, no ha sido puesto en práctica en Latinoamérica. El diseño de ejecución de tareas de evaluación ambiental, incluyendo las tareas de muestreo, e interpretación de resultados como así también la prescripción del debido control y mitigación de asbesto en edificios debe estar supeditado a profesionales, con opiniones fundamentadas sobre conocimientos adquiridos en el campo de la higiene ambiental y ocupacional.

Para citar algunos modelos, el valor límite de exposición para una jornada laboral de 8 horas es de 0,1fibras pro cm3 de aire, el cual fuere establecido por el Departamento de Trabajo de EE.UU (OSHA) y adoptado en varios países de Latinamerica como un “valor alcanzable” al cual la industria podía comprometerse a garantizar por razones técnicas. En otras palabras, la concentración límite de 0,1f/cc es un valor consensuado entre el sector privado y los organismos estatales que regulan material, aun tratándose de un agente cancerígeno con umbral desconocido de seguridad. Hace solo un par de décadas, el límite de exposición laboral era 10 veces más laxo, aun conociendo los efectos dañinos del asbesto. En el caso de Argentina, el límite de exposición fue promulgado a través de la ley de Seguridad e Higiene 19587 y su decreto reglamentario 351/79. No obstante, OSHA reconoce que aquellos individuos expuestos al límite legal permitido de 0,1 f/cc, la mortalidad de dichos trabajadores al termino de 20 años se encuentra en el orden de 2260 personas por cada millón de expuestos a fibras de asbesto. Los riesgos de mortalidad se disparan exponencialmente cuando un trabajador consume tabaco o está expuesto a otros contaminantes con efecto sinérgico. Este valor limite aplica solo para trabajadores sanos, y no considera otros sectores de la sociedad como niños, ancianos, etc., no aplicando a edificios donde no se llevan actividades laborales. Según la OMS la población no debería estar expuesta a más de 0,01 f/cc. He de aquí que en países industrializados como Alemania los trabajadores no pueden estar expuestos a más de 0,01 f/cc. El mismo criterio de exposición es utilizado en EE. UU para validar que un edificio ha sido debidamente saneado de asbesto. La ciencia nos informa que no hay niveles seguros de exposición a agentes cancerígenos, por ende, estos valores limites son simplemente los alcanzables.

En conclusión, frente a la ausencia de un conocimiento de la dimensión del asbesto instalado en Latiamerica, a la inefable carencia de un control sistemático del estado de instalaciones con asbesto y la prácticamente nula evaluación de la calidad del aire en materia de asbesto, no es sorprendente esperar que se continúe sobreexponiendo a la población laboral y no laboral que frecuenta los ambientes que contienen este material.

Las buenas prácticas comienzan requiriendo la identificación y localización del asbesto en todos los lugares donde se sospeche su presencia, y de confirmarse y ser necesario, evaluar a la población expuesta. Lo que no se mide no se puede controlar. Es tarea de todos cuidar a nuestra población y no solo la de un médico que nos puede recordar que 20 años no es nada y que febril bien puede ser la mirada del prójimo.