

## Hazardous Substances

### Culling Cancer Before It Stems: A Novel, Rapid Carcinogen Detection Method

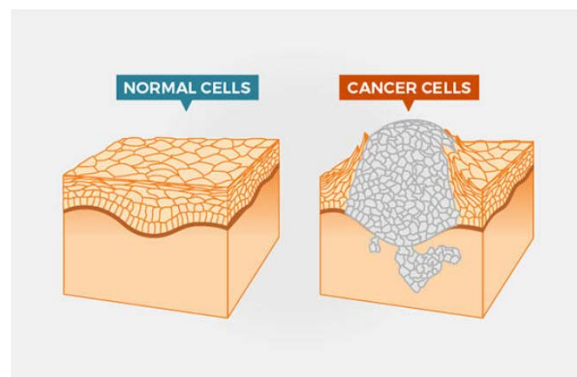
#### Special Interest Articles:

- [Benzene](#)
- [Biofuel](#)
- [Gut](#)
- [Microbes](#)
- [Sanitizing](#)
- [N95](#)
- [Nanoplastics](#)

Today, our lifestyle brings us in contact with multiple chemicals daily: in packaged food, cosmetics, construction materials, aerosols, and so on; a number of these chemicals have been named "carcinogens." A chemical's carcinogenicity is its ability to cause cancer in humans or other living things. Because cancer is a major cause of illness, disability, and death worldwide, scientists have developed several different ways to test chemicals for carcinogenicity in the laboratory. However, these methods are complex and take a long time to yield results, which makes it difficult for scientists to test large numbers of chemicals.

Now, in a paper recently published in *Scientific Reports*, an international research team led by Professor Masaharu Seno of Okayama University, Japan, reports a new method that can achieve this quickly. "It takes only one week for our method to yield results," notes Prof Seno, and this represents a considerable improvement over existing methods.

The method involves stem cells--precursor cells that mature into various different



cells with specialized functions, such as blood cells or neurons. Previously, Prof Seno's research team had used a certain kind of stem cell from mice, called mouse induced pluripotent stem cells, to establish a model in which healthy stem cells converted to "cancerous" stem cells, also called cancer stem cells (or CSCs), in four weeks when kept in a conditioned culture medium of mouse lung cancer cells. In this study, the researchers reasoned that adding a carcinogenic chemical to the conditioned medium should boost this conversion.

Read more:

[https://www.eurekalert.org/pub\\_releases/2020-08/ou-ccb080520.php](https://www.eurekalert.org/pub_releases/2020-08/ou-ccb080520.php)

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## Embedded Systems and the Internet of Things: Can Low-Cost Gas Sensors Be Used in Risk Assessment of Occupational Exposure?

The Internet of Things (IoT) explores new perspectives and possible improvements in risk assessment practices and shows potential to measure long-term and real-time occupational exposure. This may be of value when monitoring gases with short-term maximum levels and for time-weighted average (TWA) concentrations used in standard measuring practices. A functional embedded system was designed using low-cost carbon monoxide (CO) electrochemical sensors and long-range-wide-area-network radio communication technology (LoRaWAN) was used to enable internet connectivity. This system was utilized to monitor gas levels continuously in the working atmosphere of an incineration plant over a 2-month period.

The results show that stable and long-term continuous data transfer was enabled by LoRaWAN, which proved useful for detecting rapid changes in gas levels. However, it was

observed that raw data from the low-cost sensors did not meet the NIOSH accuracy criteria of  $\pm 25\%$  of the estimated true concentration based on field data from a co-located gas detector that met the NIOSH accuracy criteria. The new IoT technologies and CO sensor networks shows potential for remote monitoring of exposure in order to: (1) detect rapid changes in CO and other possible hazardous airborne gases; and (2) show the dynamic range of real-time data that may be hazardous for workers in the sampled areas. While the IoT low-cost sensors appear to be useful as a sentinel for monitoring hazardous atmospheres containing CO, the more useful finding may be showing real-time changes and the dynamic range of exposures, thus shedding light on the transient and toxic nature of airborne hazards. More importantly, the low-cost CO sensors are not a clear substitute for the more costly real-time gas detectors

that perform within the NIOSH accuracy criteria.

*Read more: Journal of Occupational and*

*Environmental Hygiene,  
Published online: 10 Aug 2020  
(Available with AIHA  
membership)*

### **Risk Assessment Studies of the Impact of Occupational Exposure of Pharmaceutical Workers on the Development of Antimicrobial Drug Resistance**



Pharmaceutical workers involved with the production of antimicrobial drugs are exposed to various antimicrobial chemicals in different steps of manufacturing such as grinding, sieving, compression, granulation, mixing, and filling. These exposures may lead to the development of multidrug resistance (MDR) in bacteria. Scientific reports on the occupational health hazard of pharmaceutical workers involved in manufacturing antibiotics are scarce. The present study aimed to compare the degree of bacterial resistance in pharmaceutical workers in India to that of individuals not involved in the pharmaceutical field. Twenty male workers from 5 local pharmaceutical companies and 20 male subjects not involved in the pharmaceutical field (non-pharmaceutical subjects) were

randomly selected. Nasal fluid and mucus/cough specimens were collected from each subject and were cultured separately at 37 °C for 24 hr to obtain bacterial growth. The cultured species were then identified, isolated, and subjected to microbial sensitivity testing against 18 different antibiotics from 8 different groups by the disk diffusion method.

*Staphylococcus spp.*, *Pseudomonas spp.*, and *Escherichia coli* were identified and isolated from the culture of nasal fluids and mucuses, respectively. All the isolated species of bacteria exhibited significant enhancement of the degree of MDR in pharmaceutical workers compared with non-pharmaceutical subjects. Workers with a longer working history had greater degree of antibiotic resistance and vice versa. It can be certainly considered that the exposure of pharmaceutical workers to antibiotic agents resulted in a high incidence of multidrug resistance. Effective steps should be taken to minimize inherent exposure of pharmaceutical workers to antibiotics during work to prevent antimicrobial drug resistance.

*Read more: Journal of Occupational and Environmental Hygiene, Published online:*

10 Aug 2020 (Available with AIHA membership)

## ***Cannabis*: An Emerging Occupational Allergen?**

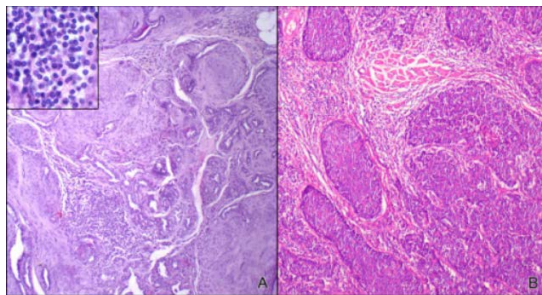
*Cannabis* is the most commonly used psychoactive drug. In recent years, *Cannabis* access has expanded for both medicinal and non-medicinal has grown. This is also marked with an increasing number of individuals gaining employment in this emerging industry. In this article, we briefly discuss the health hazards associated with *Cannabis* exposure with an emphasis on the potential for allergic reactions in workers who handle and process *Cannabis* plant.



Read more:

<https://academic.oup.com/annweh/article-abstract/64/7/679/5823930?redirectedFrom=fulltext>

## **Dozens of Pesticides Linked with Mammary Gland Tumors in Animal Studies**



In an analysis of how regulators review pesticides for their potential to cause cancer, researchers at Silent Spring Institute identified more than two dozen registered pesticides that were linked with mammary gland tumors in animal studies. The new findings raise concerns about how the US Environmental Protection

Agency (EPA) approves pesticides for use and the role of certain pesticides in the development of breast cancer.

Several years ago, a resident on Cape Cod in Massachusetts contacted researchers at Silent Spring looking for information on an herbicide called triclopyr. Utility companies were looking to spray the chemical below power lines on the Cape to control vegetation.

Read more:

[https://www.eurekalert.org/pub\\_releases/2020-08/ssi-dop080420.php](https://www.eurekalert.org/pub_releases/2020-08/ssi-dop080420.php)

## A Quantitative Meta-Analysis of the Relation between Occupational Benzene Exposure and Biomarkers of Cytogenetic Damage

### Background:

The genotoxicity of benzene has been investigated in dozens of biomonitoring studies, mainly by studying (classical) chromosomal aberrations (CAs) or micronuclei (MN) as markers of DNA damage. Both have been shown to be predictive of future cancer risk in cohort studies and could, therefore, potentially be used for risk assessment of genotoxicity-mediated cancers.

### Objectives:

We sought to estimate an exposure–response curve (ERC) and quantify between-study heterogeneity using all available quantitative evidence on the cytogenetic effects of benzene exposure on CAs and MN respectively.



### Methods:

We carried out a systematic literature review and summarized all available data of sufficient quality using meta-analyses. We assessed the heterogeneity in slope estimates between studies and conducted additional sensitivity analyses to assess how various study characteristics impacted the estimated ERC.

Read more:

<https://ehp.niehs.nih.gov/doi/full/10.1289/EHP6404>

## Radiation

### Conducting an Evaluation of CBRN Canister Protection Capabilities against Emerging Chemical and Radiological Hazards

In the event of a chemical, biological, radiological, or nuclear (CBRN) hazard release, emergency responders rely on respiratory protection to prevent inhalation of these hazards. The National Institute for Occupational Safety and Health's (NIOSH)

CBRN Statement of Standard calls for CBRN respirator canisters to be challenged with 11 different chemical test representative agents (TRAs) during certification testing, which represent hazards from 7 distinct Chemical Families; these 11 TRAs were



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identified during the original 2001 CBRN hazard assessment. CBRN hazards are constantly evolving in type, intent of use, and ways of dissemination. Thus, new and emerging hazards must be identified to ensure CBRN canisters continue to provide protection to emergency responders against all hazards that would most likely be used in an intentional or unintentional event.

The objectives are to: (1) update the CBRN list of hazards to ensure NIOSH-approved CBRN canisters continue to provide adequate protection capabilities from newly emerging chemical and radiological hazards and (2) identify the need to update NIOSH TRAs to ensure testing conditions represent relevant hazards. These

objectives were accomplished by reviewing recent hazard assessments to identify a list of chemical and radiological respiratory hazards, evaluate chemical/physical properties and filtration behavior for these hazards, group the hazards based on NIOSH's current Chemical Families, and finally compare the hazards to the current TRAs based on anticipated filtration behavior, among other criteria.

Upon completion of the evaluation process, 237 hazards were identified and compared to NIOSH's current CBRN TRAs. Of these 237 hazards, 203 were able to be categorized into one of NIOSH's current seven Chemical Families. Five were identified for further evaluation. Based on reviewing key chemical/physical properties of each hazard, NIOSH's current 11 TRAs remain representative of the identified respiratory CBRN hazards to emergency responders and should continue to be used during NIOSH certification testing. Thus, NIOSH's CBRN Statement of Standard remains unchanged. The process developed standardizes a methodology for future hazard evaluations.

*Read more: Journal of Occupational and Environmental Hygiene, Published online: 10 Aug 2020 (Available with AIHA membership)*

## Ventilation

### Droplet Spread from Humans Doesn't Always Follow Airflow

The World Health Organization has warned that aerosol transmission of COVID-19 is being underestimated. If aerosol spread is confirmed to be significant, as suspected, we will need to reconsider guidelines on social distancing, ventilation systems and shared spaces.

A group of researchers from Heriot-Watt University and the University of Edinburgh in the U.K. believes a better understanding of different droplet behaviors and their different dispersion mechanisms based on droplet size is also needed.

In *Physics of Fluids*, from AIP Publishing, the group presents a mathematical model that clearly demarcates small-, intermediate- and large-sized droplets. Simple formulas



can be used to determine a droplet's maximum range.

Read more:

[https://www.eurekalert.org/pub\\_releases/2020-08/aiop-dsf073120.php](https://www.eurekalert.org/pub_releases/2020-08/aiop-dsf073120.php)

## PPE

### Disposed PPE Could Be Turned Into Biofuel, Shows New COVID-19 Study



Plastic from used personal protective equipment (PPE) can, and should, be transformed into renewable liquid fuels - according to a new study, published in the peer-reviewed Taylor & Francis journal *Biofuels*.

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Experts from The University of Petroleum and Energy Studies have suggested a strategy that could help to mitigate the problem of dumped PPE - currently being disposed of at unprecedented levels due to the current COVID-19 pandemic - becoming a significant threat to the environment. Out today, the research show how billions of items of disposable PPE can be converted

from its polypropylene (plastic) state into biofuels - which is known to be at par with standard fossil fuels.

*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/tfg-dpc073120.php](https://www.eurekalert.org/pub_releases/2020-08/tfg-dpc073120.php)

### Noise

#### NIOSH Research Warns of Noise Hazards in Service Industry

A large number of noise-exposed workers within the services industry sector—the largest sector in U.S. industry—have an elevated risk of hearing loss, according to new research from the National Institute for Occupational Safety and Health (NIOSH).

The study of hearing loss in workers across a wide variety of service industries was recently published in the *International Journal of Audiology*.

NIOSH researchers examined audiograms for 1.9 million noise-exposed workers across all industries, including audiograms for 158,436 service sector workers. An audiogram, sometimes called a “hearing test,” tests the ability to hear a range of



sounds from low (500 hertz (Hz)) to high (8000 Hz) frequencies.

*Read more:*

<https://ehsdailyadvisor.blr.com/2020/08/ni-osh-research-warns-of-noise-hazards-in-service-industry/>



***Preventive Medicine***

**Green Apple Flavor in Vapes Enhances Nicotine Reward**



A common green apple vape flavor enhances nicotine reward and is also rewarding itself, according to research in mice recently published in *eNeuro*.

Vaping entices adolescents into nicotine use with fun flavors like green apple and cotton candy. Nicotine-free flavored vapes have also gained popularity. But of the over 7000 available flavor chemicals, only a handful have been studied. With or without nicotine, flavored vapes pose potential risks for the brain, including addiction. patient from the healthy population.

*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/sfn-gaf072820.php](https://www.eurekalert.org/pub_releases/2020-08/sfn-gaf072820.php)

**Interim Infection Prevention and Control Guidance for Veterinary Clinics Treating Companion Animals during the COVID-19 Response**

SARS-CoV-2, the virus that causes COVID-19 in humans, is thought to be spread primarily through respiratory droplets from coughing, sneezing, or talking. There are also reports that people may be able to spread the virus while pre-symptomatic or asymptomatic. We are still learning about this novel zoonotic virus, and it appears that in some rare situations, human to animal transmission can occur.

CDC is aware of a small number animals, including dogs and cats, reported external icon to be infected with SARS-CoV-2 after close contact with people with COVID-19.



The United States Department of Agriculture (USDA) and CDC recently reported confirmed infection with SARS-CoV-2 in two pet cats with mild respiratory

illness in New York, which were the first confirmed cases of SARS-CoV-2 infections in companion animals in the United States. Both cats are expected to recover. The cats had close contact with people confirmed or suspected to have COVID-19, suggesting human-to-cat spread. Further studies are

needed to understand if and how different animals could be affected by SARS-CoV-2.

*Read more:*

[https://www.cdc.gov/coronavirus/2019-ncov/community/veterinarians.html#anchor\\_1588434194380](https://www.cdc.gov/coronavirus/2019-ncov/community/veterinarians.html#anchor_1588434194380)

### Easy to Overdose on Paracetamol If You're Selenium Deficient, Says Research



A lack of the mineral selenium in the diet puts people at risk of paracetamol overdose, even when the painkiller is taken at levels claimed to be safe on the packaging, according to collaborative research emerging from the University of Bath and Southwest University in China. Paracetamol (also called Tylenol) is best known for relieving mild pain and fever, and

is a leading cause of liver failure when taken at dangerous levels. For adults, the recommended maximum daily dosage is 4g (amounting to two 500mg tablets taken four times). However, the team from Bath and Chongqing has found that the micronutrient selenium affects the speed at which the painkiller is flushed from the body. As a result, taking 4g of the medication in a given day can be dangerous for people with low levels of selenium in their bodies.

*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/uob-eto080420.php](https://www.eurekalert.org/pub_releases/2020-08/uob-eto080420.php)

### Lead Poisoning Could Reduce Gene Expression in Humans

Scientists have unveiled a correlation between high blood lead levels in children and methylation of genes involved in haem synthesis and carcinogenesis, indicating a previously unknown mechanism for lead poisoning.

Lead poisoning is a well-documented disease, the incidence of which has drastically reduced since the use of lead has been curtailed. Nevertheless, many areas across the world still have unsafe levels of lead in the environment. Lead poisoning causes symptoms such as

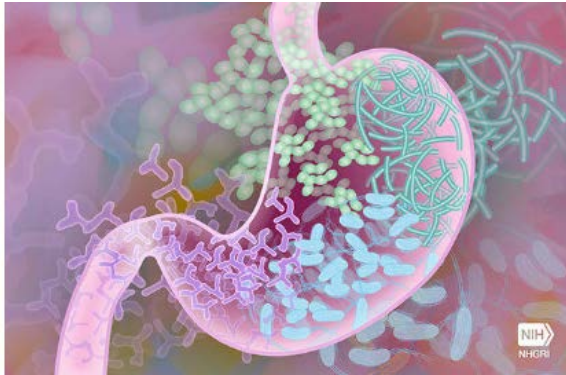
abdominal pain, kidney failure and infertility, among others, but the most damaging effects are seen in children, where it causes neurological and developmental deterioration; however, a number of mechanisms behind it have been elusive.

*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/hu-lpc080720.php](https://www.eurekalert.org/pub_releases/2020-08/hu-lpc080720.php)



### Gut Microbes Shape Our Antibodies Before We Are Infected By Pathogens



B cells are white blood cells that develop to produce antibodies. These antibodies, or immunoglobulins, can bind to harmful foreign particles (such as viruses or disease-causing bacteria) to stop them invading and infecting the body's cells. Each B cell carries an individual B cell receptor (BCR) which determines which particles it can bind,

rather like each lock accepts a different key. There are many millions of B cells with different receptors in the body. This immense diversity comes from rearranging the genes that code these receptors, so the receptor is slightly different in every B cell resulting in billions of possibilities of different harmful molecules that could be recognized. Intestinal microbes trigger expansion of these B cell populations and antibody production, but until now it was unknown whether this was a random process, or whether the molecules of the intestinal microbes themselves influence the outcome.

*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/uob-gms080520.php](https://www.eurekalert.org/pub_releases/2020-08/uob-gms080520.php)

## Environmental Health

### Notes from the NICU: Analyzing the Chemical Content of Commonly Used Medical Products

Neonatal intensive care units (NICUs) are tasked with saving the lives of some of society's most vulnerable individuals. But while ill and premature newborn infants in the NICU benefit from the best care that modern hospitals have to offer, is there a chance these life-saving treatments also result in potentially harmful chemical exposures? That question is at the heart of a study published recently in *Environmental Health Perspectives*.<sup>1</sup>

The new study was performed by a research team based in Granada, Spain, in collaboration with a local NICU. The investigators first collected a convenience sample of commonly used medical items such as film dressings, feeding tubes, intravenous systems, pacifiers, ointments, catheters, and sterile gloves. The 52 items were manufactured in countries around the world: 37 came from Europe, 8 from the United States, 6 from Asia, and 1 from New Zealand. Then the investigators prepared



extracts to quantify the content of bisphenol A (BPA) and multiple parabens in each item and to assess hormone-like activity through *in vitro* assays.

Read more:

<https://ehp.niehs.nih.gov/doi/10.1289/EHP6709>

### Finding Toxic Carcinogenic Metals Faster in Foods and Water



Finding out if the food and water we consume are safe from toxic and carcinogenic metals can now be much faster and simpler. Researchers at the University Johannesburg developed an efficient and more sensitive method to test for dangerous levels of heavy metals, like

arsenic, cadmium and chromium in vegetables and water. The method can be used to test other foods also. It is possible to test for several metals at the same time and automation can be added. The method can be used to test other foods. The instrumentation used is readily available in laboratories in developing countries.

### Is it safe?

Researchers at the University of Johannesburg have developed a faster, more economical method to directly identify toxic and carcinogenic heavy metals in vegetables and drinking water.

Trace metals such as lead (Pb), arsenic (As), cadmium (Cd) and thallium (Tl) are toxic even at very low concentrations (levels). Arsenic, cadmium and chromium hexavalent compounds are also recognised as carcinogens by International Agency for Research on Cancer (IARC) and the US National Toxicology Program (NTP).

*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/uoj-ftc080120.php](https://www.eurekalert.org/pub_releases/2020-08/uoj-ftc080120.php)

## Inconsistent EPA Regulations Increase Lead Poisoning Risk to Kids, Study Finds

Two federal environmental standards regulating lead hazards in homes and child care facilities have different maximum thresholds, a discrepancy putting more than 35,000 kids in the United States at increased risk of lead poisoning.

That's according to a new study led by a Brown University researcher as the U.S. Environmental Protection Agency (EPA) moves to revise protective standards for dust lead levels on floors and windowsills in buildings constructed before 1978.

"Lead exposure presents a major risk to hundreds of thousands of children across the nation, and it's imperative that federal EPA regulations offer a clear and consistent standard to reduce that risk," said Joseph Braun, an associate professor of epidemiology at Brown. "Currently, these standards are counterproductive to public health."

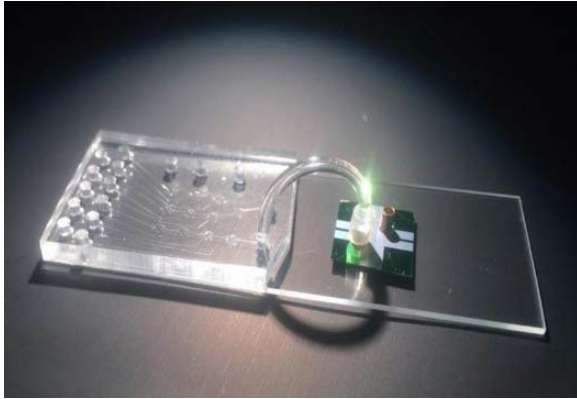


*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/bu-ier080620.php](https://www.eurekalert.org/pub_releases/2020-08/bu-ier080620.php)



## **New Device Can Measure Toxic Lead within Minutes**



Rutgers researchers have created a miniature device for measuring trace levels of toxic lead in sediments at the bottom of harbors, rivers and other waterways within minutes - far faster than currently available laboratory-based tests, which take days. The affordable lab-on-a-chip device could also allow municipalities, water companies, universities, K-12 schools, daycares and

homeowners to easily and swiftly test their water supplies. The research is published in the *IEEE Sensors Journal*.

"In addition to detecting lead contamination in environmental samples or water in pipes in homes or elementary schools, with a tool like this, someday you could go to a sushi bar and check whether the fish you ordered has lead or mercury in it," said senior author Mehdi Javanmard, an associate professor in the Department of Electrical and Computer Engineering in the School of Engineering at Rutgers University-New Brunswick.

*Read more:*

[https://www.eurekalert.org/pub\\_releases/2020-08/ru-ndc082520.php](https://www.eurekalert.org/pub_releases/2020-08/ru-ndc082520.php)

## **Ergonomics**

### **Other Forms of Treatments Are As Effective As Opioids for Acute Musculoskeletal Injuries**

Two new evidence reviews related to acute musculoskeletal injuries like strains and sprains suggest other forms of treatments are as effective as opioids and have less risk of harm to patients.

The details of the systematic reviews and meta-analyses, led by McMaster University,



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are published today in the *Annals of Internal Medicine*. The first article focuses on predictors of prolonged opioid use following initial prescription for acute musculoskeletal injuries in adults.

Researchers conducted a systematic review and meta-analysis of observational studies in MEDLINE, EMBASE, Web of Science, and Google Scholar from inception through January 2020.

Based on 13 studies with 13.3 million participants, the overall prevalence of

prolonged opioid use for high-risk populations, such as patients receiving Workers' Compensation benefits, Veterans Affairs claims, or patients with high rates of substance use disorders, was 27%. Meanwhile, the prevalence among the general population was 6%.

Read more: <https://www.news-medical.net/news/20200818/Other-forms-of-treatments-are-as-effective-as-opioids-for-acute-musculoskeletal-injuries.aspx>

## Safety

### Addressing SARS-CoV-2 (COVID-19) Exposure Risk Using Engineering Controls



Due to increasing COVID-19 case counts across many states, public health officials are recommending source control measures to reduce disease transmission, including mandatory mask use in public places. Unfortunately, these measures rely upon

the user's effective compliance, both in work and in social settings. Growing evidence suggests that aerosols may play a part in the transmission of SARS-CoV-2 and that engineering control measures are needed in public facilities like office buildings and schools to reduce the risk of disease transmission. These measures can be effective for immediate control of aerosol exposure in the indoor environment

Read more: <https://ehsdailyadvisor.blr.com/2020/08/addressing-sars-cov-2-covid-19-exposure-risk-using-engineering-controls/>

## Electric Cooker an Easy, Efficient Way to Sanitize N95 Masks, Study Finds

Owners of electric multicookers may be able to add another use to its list of functions, a new study suggests: sanitization of N95 respirator masks. The University of Illinois, Urbana-Champaign study found that 50 minutes of dry heat in an electric cooker, such as a rice cooker or Instant Pot, decontaminated N95 respirators inside and out while maintaining their filtration and fit. This could enable wearers to safely reuse limited supplies of the respirators, originally intended to be one-time-use items.

Led by civil and environmental engineering professors Thanh "Helen" Nguyen and Vishal Verma, the researchers published their findings in the journal *Environmental Science and Technology Letters*.



Read more:

[https://www.eurekalert.org/pub\\_releases/2020-08/uoia-eca080620.php](https://www.eurekalert.org/pub_releases/2020-08/uoia-eca080620.php)

## Safety Best Practices for Contract, Gig, and Temporary Workers

### Protecting Temporary Workers

The number of staffing agencies and temporary workers grew rapidly during the end of the last century, and the types of alternative work arrangements continue to proliferate. There now are several types of workers in “nonstandard work arrangements.”

The Labor Department’s Bureau of Labor Statistics (BLS) lists these as:

- Day laborers, who provide construction or other labor but have no ongoing employment arrangement;
- Directly employed on-call employees like substitute teachers or call-in retail workers;
- Intermediate contractors, sometimes called “gig workers,” who are self-employed but connect with clients through an online marketplace or other intermediary, which include drivers hired via peer-to-peer ridesharing apps, dog

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walkers, and others who provide as-needed labor; and

- Temporary agency workers represented by a staffing agency that provides labor under contract.

*Read more:*

<https://ehsdailyadvisor.blr.com/2020/08/safety-best-practices-for-contract-gig-and-temporary-workers/>

### Worker Safety Data for 238,000 Employers Posted by Group (1)



Federal injury and illness records covering more than 238,000 employers are now available for anyone to see.

Public Citizen posted the information Monday that it obtained after winning a federal Freedom of Information Act lawsuit seeking to force the Occupational Safety and Health Administration to release data for 2016 (*Public Citizen Found. v. DOL*, D.D.C., No, 18-cv-00117, 6/23/20). OSHA had refused to release the records by claiming employer confidentiality. Among large companies, the reports show that Walt Disney Parks and Resorts U.S. Inc., near Orlando, Fla., recorded 2,702 cases among its average employee base of 62,668 workers. National grocery retailer and distributor Delhaize America L.L.C., listed 3,352 cases among 100,565 employees.

*Read more:*

<https://news.bloomberglaw.com/safety/worker-safety-data-for-238-000-employers-posted-by-group>

## ***Emergency Preparedness***

### **How to Bring Office Workers Back Safely**

With offices across the country slowly reopening, workers are returning to a changed landscape with new procedures and office norms. This means that companies must review their emergency preparedness plans and adapt them to the realities of the pandemic.

In today's world, emergency preparedness plans must accommodate fluctuating or rotating staff, social distancing guidelines, and new office layouts. While it's important to be prepared for all emergencies, the most critical threat to your workers' safety might not be from a workplace injury but rather from an invisible disease that has the potential to sicken your staff and customers. All plans must account for this new reality.



*Read more:*

<https://ehsdailyadvisor.blr.com/2020/08/how-to-bring-office-workers-back-safely/>

## ***Deployment Health***

### **Air Force Invention Kills Toxins on Contact**



An Air Force invention could be key to reducing the amount of airborne microbes - like viruses, bacteria and mold spores - inside buildings and homes.

In 2009, the U.S. Air Force submitted a patent application for an invention that coats surfaces with a protective finish, killing toxins on contact.





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reverse-transcription polymerase chain reaction (RT-PCR).

Now, researchers reporting in ACS Nano ("Multiplexed Nanomaterial-Based Sensor Array for Detection of COVID-19 in Exhaled Breath") have developed a prototype device

that non-invasively detected COVID-19 in the exhaled breath of infected patients.

*Read more:*

<https://www.nanowerk.com/nanotechnology-news2/newsid=55945.php>

### Regulatory Research & Industrial Hygiene Professional News

#### Congress

### PACTPA Bill Proposes First Pesticide Regulatory Changes Since 1996

Senator Tom Udall (D-NM) and U.S. Representative Joe Neguse (D-Colo.) introduced the Protect America's Children from Toxic Pesticides Act of 2020 (PACTPA) bill into Congress on August 4, 2020. The purpose of the bill, if passed, is to protect consumers, farmworkers, and children from harmful pesticides.

It marks the first attempt to update laws related to pesticide control since 1996.



*Read more:*

<https://ehsdailyadvisor.blr.com/2020/08/pactpa-bill-proposes-first-pesticide-regulatory-changes-since-1996/>

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## NIOSH

### PPE CASE - Filtration Efficiency Performance of Non-NIOSH-Approved International Respiratory Protective Devices: Phase One



This report summarizes the filtration performance results from the assessments that took place as a result of the initial Emergency Use Authorization (EUA) issued by the United States Food and Drug Administration (FDA)<sup>1</sup> and discusses important considerations when purchasing non-NIOSH approved international respiratory devices temporarily authorized for occupational use in the United States.

Read more:

<https://www.cdc.gov/niosh/npptl/ppcase/PPE-CASE-P2020-0112.html>

## OSHA

### FDA and OSHA Publish Employee Health and Food Safety Checklist for Human and Animal Food Operations during COVID-19

To help the food industry protect employees and maintain the safety of human and animal food throughout adjustments to operations during the COVID-19 public health emergency, the U.S. Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDC), and Occupational Safety and Health Administration (OSHA) have developed a number of resources and guidance materials. FDA and OSHA, working together



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and pulling from that existing guidance, recently developed the “Employee Health and Food Safety Checklist for Human and Animal Food Operations During the COVID-19 Pandemic.”

*Read more:*

<https://www.natlawreview.com/article/fda-and-osa-publish-employee-health-and-food-safety-checklist-human-and-animal-food>

## Oregon Latest State to Propose Emergency COVID-19 Standard

Oregon has proposed an emergency temporary standard for workplace coronavirus disease 2019 (COVID-19) transmission. While there is no federal workplace safety and health standard for coronavirus exposures, California has an airborne transmissible disease standard for certain workplaces, and Virginia approved an emergency temporary standard for COVID-19 in July.



patient care. The Oregon Occupational Safety and Health Administration (OSHA) is accepting public comments on its draft rule through September 7

If approved, Oregon’s standard would contain requirements that apply to all workplaces, with additional requirements for job duties involving close-contact work activities and healthcare tasks like direct

*Read more:*

<https://ehsdailyadvisor.blr.com/2020/08/oregon-latest-state-to-propose-emergency-covid-19-standard/>

**EPA**

## First GHG Emissions Standards for Commercial Aircraft Proposed by EPA



On July 22, 2020, the EPA proposed the first

greenhouse gas (GHG) emissions standards for new commercial aircraft that will apply to all large passenger jets.

“These proposed standards would match the international airplane carbon dioxide (CO<sub>2</sub>) standards adopted by the

## Army Industrial Hygiene News and Regulatory Summary

International Civil Aviation Organization (ICAO) in 2017,” according to the Agency. “This proposed action, if finalized, would implement EPA’s authority under the Clean Air Act and would maintain the worldwide acceptance of U.S. manufactured airplanes and airplane engines.”

*Read more:*

<https://www.natlawreview.com/article/new-guidance-portal-provides-public-access-to-epa-guidance-documents>



# Army Industrial Hygiene News and Regulatory Summary

APHC

## Training

### QUARTERLY ARMY IH WEBINAR DAY SCHEDULE

[HTTPS://CONFERENCE.APPS.MIL/WEBCONF/MANAGEYOURIHMONSTER](https://conference.apps.mil/webconf/managedyourihmonster)

*ALL MEETINGS BEGIN AT 0900ET AND WILL RUN BACK TO BACK*

8/5/2020	Monster	How to COVID-IH: What you want to know
8/5/2020	Leader	3D Printing Characterization of Exposure
8/5/2020	Leader	Army IH Data Quality
8/5/2020	SME	Ergonomic Evaluation Tools
8/5/2020	Leader	Mentoring My IH Team Using PowerPoint Recordings
12/2/2020	Monster	Building Downdraft Tables in DOEHRs-IH
12/2/2020	Leader	Measuring Downdraft Ventilation
12/2/2020	SME	Downdraft Ventilation Q/A
12/2/2020	SME	DOEHRs-IH Report Standardization
3/3/2021	Monster	Building Vehicle Exhaust in DOEHRs-IH
3/3/2021	Leader	Measuring Vehicle Exhaust
3/3/2021	SME	Vehicle Exhaust Q/A
3/3/2021	SME	Vehicle Exhaust Ototoxins Q/A
6/2/2021	Monster	Building Drive-in/Drive-through Paint Booths in DOEHRs-IH
6/2/2021	Leader	Measuring Drive-in/Drive-through Paint Booths
6/2/2021	SME	Drive-in/Drive-through Paint Booth Q/A
6/2/2021	SME	Letterkenny Paint booth incident/accident
9/1/2021	Monster	Building Dilution Ventilation in DOEHRs-IH
9/1/2021	Leader	Measuring Dilution Ventilation
9/1/2021	SME	Dilution Ventilation Q/A
9/1/2021	SME	Sampling Qualifiers

# Army Industrial Hygiene News and Regulatory Summary

This monthly summary is published by the Industrial Hygiene Program Management Division for the Army Public Health Center.

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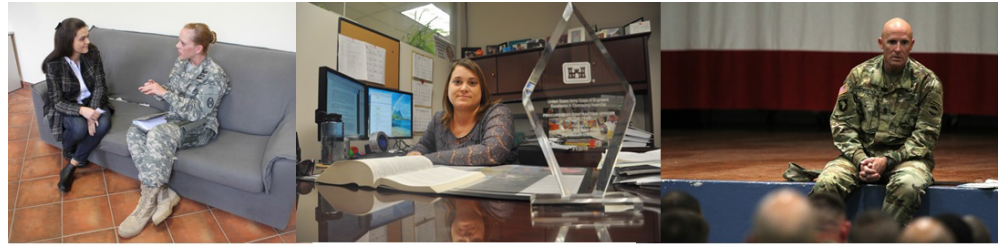
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## Professional Development and Career Programs

For Army Industrial Hygienists and Industrial Hygiene Technicians, Professional Development is through the Army Safety and Occupational Health (SOH) Career Program, known as Career Program 12 (CP-12).

Career Programs were established to ensure there is an adequate base of qualified and trained professional, technical, and administrative personnel to meet the Army's current and future needs.

Planned training and development are essential elements to building a successful career.

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