January 2022

Issue 124

Army Industrial Hygiene News and Regulatory Summary

Hazardous Substances

How to Select a Personal Sampling Pump for the Offshore Oil and Gas Industry

Special Interest Articles:

OSHA issues citations and penalties if businesses violate permissible exposure limits (PEL). PELs are legal limits designed to control employee exposure to hazardous substances in an eight-hour period to prevent health risks. However, employers are also advised to monitor recommendations from industrial hygiene experts and manufacturers because it is estimated that 90 percent of OSHA's PELs have not been updated since the 1960s. Consequently, OSHA may issue citations under the general duty clause of the Occupational Safety and Health Act (OSH Act) if exposure limits exceed industry-wide standards and pose a threat to employee health.

Industrial hygiene methods are geared towards measuring personal exposure using personal air sampling pumps because the tried-and-tested method can quantify

personal exposure and ensure compliance with regulatory limits. So, when purchasing a sampling pump, what features should you look for?

Read more:
https://ohsonline.com/articles/2022/02/01/personal-sampling-pump.aspx?admgarea=news

Contents:

EPA Adds New Air Pollutant to Hazardous List for First Time in 30 Years

For the first time, the EPA is adding a new pollutant to a list of those it has deemed unsafe to breathe.

It added a chemical called 1-bromopropane (1-BP), normally used in dry cleaning, stain removers, adhesives and cleaners, to its list of hazardous air pollutants.

The listing, which was announced in a Wednesday Federal Register notice, represents the first time the agency added a substance to the list since it was created by Congress in 1990.

The move is expected to require industry to adhere to rules that regulate emissions of other hazardous air pollutants, sometimes called HAPs.

Read more: https://thehill.com/policy/energy-environment/588655-epa-adds-new-air-pollutant-to-hazardous-list-for-first-time-in-30

Wearable Air Sampler Measures Personal COVID Virus Exposure

Masks, social distancing, proper hygiene, and ventilation can help reduce the transmission of COVID-19 in public places, but even with these measures, scientists have detected airborne SARS-CoV-2 in indoor settings. Now, researchers reporting in ACS'

Environmental Science & Technology Letters have developed a passive air sampler clip that can help assess personal exposure to SARS-CoV-2, which could be especially helpful for workers in high-risk settings, such as

restaurants or health care facilities.
Read more:
https://scitechdaily.com/wearable-air-sampler-measures-personal-covid-virus-exposure/

Pesticides at Work Could Raise Odds for COPD Lung Disease

Workplace exposure to pesticides may boost a person's risk of chronic obstructive pulmonary disease (COPD), a new study finds.

COPD is a group of lung diseases that cause airflow blockage and breathing problems. Emphysema and chronic bronchitis are the two main types of COPD. According to the U.S. Centers for Disease Control and Prevention, it's the sixth leading cause of death for Americans.

"In a large population-based study, occupational exposure to pesticides was associated with risk of COPD," the study authors conclude. Efforts to reduce workplace exposures "can prevent the associated COPD burden," the team

concluded in their report published online Jan. 26 in the journal Thorax.

Read more:
https://consumer.healthday.com/b-1-27-pesticides-at-work-might-raise-odds-for-copd-lung-disease-2656467955.html

High Levels of Potentially Harmful PFAS Chemicals Found in Anti-Fogging Sprays and Cloths

The anti-fogging sprays and cloths many people use to prevent condensation on their eyeglasses when wearing a mask or face shield may contain high levels of per- and polyfluorinated alkyl substances (PFAS), a new Duke University-led study finds.

The researchers tested four top-rated anti-fogging sprays and five top-rated anti-

fogging cloths sold on Amazon. They found all nine products contained fluorotelomer alcohols (FTOHs) and fluorotelomer ethoxylates (FTEOs), two types of PFAS that largely have flown under the scientific radar until now.

Exposure to some PFAS, particularly perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), is associated with impaired immune function, cancer, thyroid disease, and other health disorders. Mothers and young children may be especially vulnerable to the chemicals, which can affect reproductive and developmental health.

Read more: https://scitechdaily.com/high-levels-of-potentially-harmful-pfas-chemicals-found-in-anti-fogging-sprays-and-cloths/

Living Near Fracking Sites Linked to Higher Risk of Early Death: Study

Elderly individuals who live near or downwind of fracking and other "unconventional" drilling operations are at higher risk of early death compared with seniors who don't live in close proximity to such sites, according to a new study out Thursday from the Harvard T.H. Chan School of Public Health.

Airborne contaminants from more than 2.5 million oil and gas wells across the U.S., researchers wrote in a paper published in the peer-reviewed journal Nature Energy, are contributing to increased mortality among people 65 and older residing in neighborhoods close to or downwind from what is called unconventional oil and gas development (UOGD)—extraction methods

that include directional (non-vertical) drilling and hydraulic fracturing.

Read more: https://alaska-native-news.com/living-near-fracking-sites-linked-to-higher-risk-of-early-death-study/59865/

Radiation

LANL Workers Contaminated In Radiation Leak

A breached plutonium glove box contaminated two Los Alamos National Laboratory workers with radiation, requiring one to undergo treatment at the lab's outpatient clinic.

The breach in a sealed compartment — which has gloves attached so workers can handle radioactive material — prompted a six-person team to evacuate after air monitors sounded an alarm earlier this month, according to the lab.

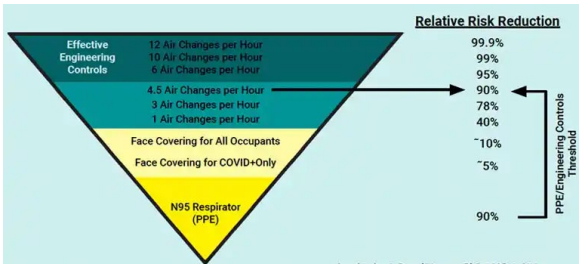
Two of the six workers had contamination on their skin and protective equipment, with one showing a high enough exposure to warrant treatment at the lab's occupational medicine clinic, a lab spokesman wrote in an email.

Read more:
https://www.santafenewmexican.com/news/local_news/lanl-workers-contaminated-in-radiation-leak/article_227ee5b4-8097-11ec-8452-577c936c156d.html

Ventilation

Amid COVID-19, NYCOSH Releases Workplace Ventilation, Filtration Recommendations

Ventilation and air filtration recommendations are part of a new workplace policy guide on reducing COVID-19 transmission, published by the New York Committee for Occupational Safety and Health, a worker advocacy group.



Released in December and developed in partnership with the Last Mile – a volunteer network focused on getting personal protective equipment to frontline health care workers – the MAD+ Policy Guide lays out key best practices on masking, air ventilation and physical distancing, "along with the need for worker voices to be included in safety and health planning."

With regard to air ventilation, the guide calls for a minimum of six "air changes" an hour in a mechanical ventilation system, if available. An air change refers to the volume of air in a room being fully replaced with outdoor air and/or recirculated air that has already been properly filtered, the guide states.

Read more:
https://www.safetyandhealthmagazine.com/articles/22209-amid-covid-19-nycosh-releases-workplace-ventilation-filtration-recommendations

PPE

Evaluation of the Effects of Repeated Disinfection on Medical Exam Gloves: Part 1. Changes in Physical Integrity

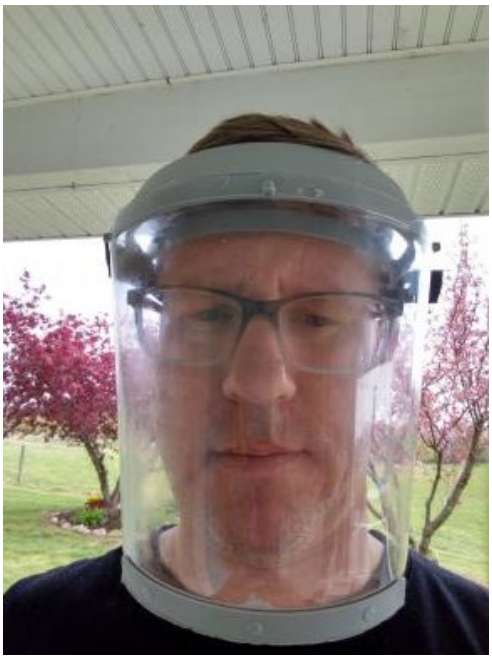
COVID-19 has created shortages of personal protective equipment. In resource-constrained situations, limited cycles of disinfection and extended use of gloves is recommended by the U.S. Centers for Disease Control and Prevention to conserve supplies. However, these guidelines are based on limited evidence. In this study, serial cycles of hand hygiene were performed on gloved hands using an ethanol-based hand rub (six and 10 cycles), 0.1% sodium hypochlorite (bleach) solution (10 cycles), or soap and water (10 cycles) on latex and nitrile medical exam gloves from the United States and India. A modified water-leak test evaluated glove integrity after repeated applications of these disinfecting agents. When aggregated, dilute bleach demonstrated the lowest difference between treatment and control arms: −2.5 percentage points (95% CI: −5.3 to 0.3) for nitrile, 0.6 percentage points (95% CI: −2.6 to 3.8) for non-powdered latex. For U.S.-purchased gloves tested with six and 10 applications of ethanol-based hand rub, the mean difference in failure risk between treatment and control gloves was within the prespecified non-inferiority margin of five percentage points or less, though some findings were inconclusive since outside the margin. The aggregated

difference in failure risk between treatment and control was 3.5 percentage points (0.6 to 6.4) for soap and water, and 2.3 percentage points (−0.5 to 5.0) and 5.0 percentage points (1.8 to 8.2) for 10 and 6 applications of ethanol-based hand rub, respectively. Most leaks occurred in the interdigital webs (35%) and on the fingers (34%). This indicates that some combinations of glove types and disinfection methods may allow for extended use. Ten applications of dilute bleach solution had the least impact on glove integrity. However, the majority of glove and exposure combinations were inconclusive. Additional testing of specific glove and disinfectant combinations may inform future strategies to guide extended use during glove shortages. Additional considerations, not evaluated here, include duration of use, disinfectant chemical permeation, and the effects of hand temperature, movement, and manipulation of instruments on glove integrity.

Read more: *Journal of Occupational and Environmental Hygiene, Published online: 25 Jan 2022 (Available with AIHA membership*)

Influence of Face Shields on Exposures to Respirable Aerosol

The objective of this study was to determine the influence of face shields on the concentration of respirable aerosols in the breathing zone of the wearer. The experimental approach involved the generation of poly-dispersed respirable test dust aerosol in a low-speed wind tunnel over 15 minutes, with a downstream breathing mannequin. Aerosol concentrations were measured in the breathing zone of the mannequin and at an upstream location using two laser spectrophotometers that measured particle number concentration over the range 0.25-31 µm. Three face shield designs were tested (A, B and C) and were positioned on the mannequin operated at a high and low breathing rate. Efficiency – the reduction in aerosol concentration in the breathing zone – was calculated as a function of particle size and overall, for each face shield. Face shield A, a bucket hat with flexible shield, had the highest efficiency, approximately 95%, while more traditional face shield designs had



efficiency 53-78%, depending on face shield and breathing rate. Efficiency varied by particle size, but the pattern differed among face shield

designs. Face shields decreased the concentration of respirable aerosols in the breathing zone, when aerosols were carried perpendicular to the face. Additional research is needed to understand the impact of face shield position relative to the source.

Read more: Journal of Occupational and Environmental Hygiene, Accepted author version posted online: 04 Jan 2022(Available with AIHA membership)

Noise

Non-sound Booth Hearing Tests May Be Valid Alternative during COVID-19 Pandemic

As we continue taking precautions to prevent the spread of SARS-CoV-2, modifications to our health care delivery have become commonplace. For example, the COVID-19 pandemic has resulted in increased use of telehealth services, in place of in-person visits, when possible. Most traditional audiology services, however, take place in a sound-treated test booth, an inherently close-contact setting. Although the Centers for Disease Control and Prevention recommends the use of face masks in interactions such as these, the pandemic has forced audiologists to adapt in other ways as well. How and where can audiologists perform accurate hearing tests when a sound booth is not the safest option?

A recent study, "Adapting Audiology Procedures During the Pandemic: Validity and Efficacy of Testing Outside a Sound Booth," published in the American Journal of Audiology examined the utility of a wireless audiometer system that could be used outside of a traditional sound booth. The results of this study are intended to aid clinicians considering the value of an alternative hearing assessment technology.

Read more:
https://journals.lww.com/thehearingjournal/Fulltext/2022/02000/Non_sound_Booth_Hearing_Tests_May_Be_Valid.6.aspx

Preventive Medicine

'Secondhand Vaping' May Be Unhealthy — Could Public Bans Be Coming?

Secondhand vapor from electronic cigarettes is harmful to others, causing bronchitis symptoms and shortness of breath in young bystanders, a new study reports.

Secondhand exposure to vapor increased teens' risk of bronchitis symptoms by 40% and shortness of breath by 53%, according to findings published online Jan. 10 in the journal Thorax.

The effect was even worse on people who don't vape or smoke. They were three times more likely to develop bronchitis symptoms and twice as likely to develop wheeze or shortness of breath, the researchers found.

Read more: https://consumer.healthday.com/1-12-secondhand-vaping-may-be-unhealthy-could-public-bans-be-coming-2656253177.html

Tiny Electric Generators Could Accelerate Wound Healing

Tiny dressings that generate electricity in response to movement could accelerate wound healing and tissue regeneration. Scientists in Taiwan reviewed the latest advances and potential applications of wound healing technology in the journal Science and Technology of Advanced Materials.

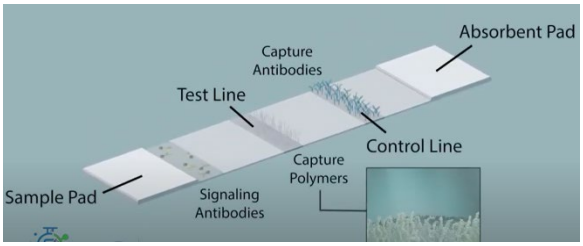
Read more: https://phys.org/news/2022-01-tiny-electric-wound.html

Sugar-Coated COVID-19 Test Strip Takes Advantage of Coronavirus' Sweet Tooth to Detect All Variants

Even those tracking each new discovery about the coronavirus and its variants may not be aware of the virus' sugar cravings.

Researchers at the University of North Carolina at Chapel Hill and University of California San Diego take advantage of the virus' sweet tooth in the design of a sugar-coated COVID-19 test strip that's been effective at detecting all known variants of the coronavirus, including delta.

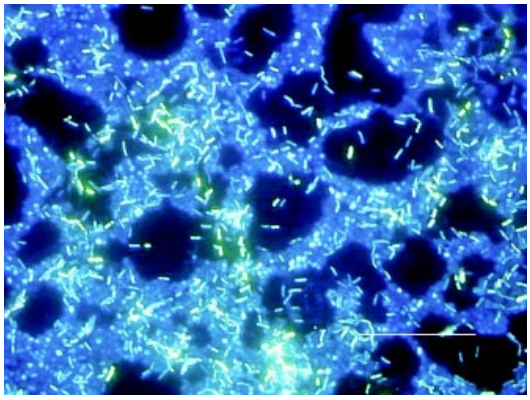
In the next few weeks, researchers will determine if the self-test known as GlycoGrip can detect infections caused by



the omicron variant too, said Carolina researcher Ronit Freeman.

Read more: https://scitechdaily.com/sugar-coated-covid-19-test-strip-takes-advantage-of-coronavirus-sweet-tooth-to-detect-all-variants/

Bacteria Communicate Using Chemical Signals Comparable to Radio Waves



The thought of bacteria joining together to form a socially organized community capable of cooperation, competition, and sophisticated communication might at first seem like the stuff of science fiction — or just plain gross.

But biofilm communities have important implications for human health, from causing illness to aiding digestion. And they play a role in a range of emerging technologies meant to protect the environment and generate clean energy.

Read more: https://scitechdaily.com/bacteria-communicate-using-chemical-signals-comparable-to-radio-waves

COVID Infection Unlikely From Hospital Surfaces: Study

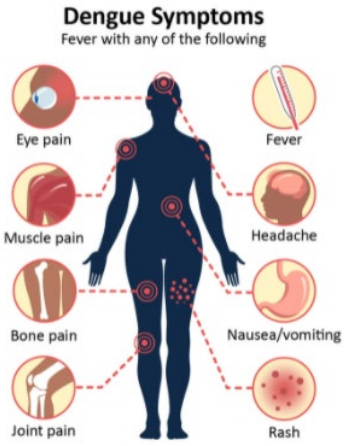
Remember when everyone was disinfecting their groceries at the start of the pandemic, fearful that the new coronavirus could be spread simply by touching a surface on which the virus had landed?

New research confirms that much of that cleaning was unnecessary because people are unlikely to get COVID-19 from contaminated surfaces.

"Early on in the pandemic, there were studies that found that SARS-CoV-2 could be detected on surfaces for many days," said senior study author Dr. Deverick Anderson, a professor of medicine at Duke University in Durham, N.C. "But this doesn't mean the virus is viable. We found there is almost no live, infectious virus on the surfaces we tested."

Read more:
https://consumer.healthday.com/how-long-does-covid-live-on-surfaces-2656428033.html

Dengue Virus Makes Mosquitoes Bite More Often



New research shows that mosquitoes infected with the dengue virus bite more often, which triples the risk of transmitting the disease to people.

Dengue is one of the most common mosquito-borne diseases. It affects more than 400 million people each year worldwide, killing around 40,000.

Most infected people have no symptoms or mild ones such as nausea, vomiting, rash, fever and aches and pains. However, 1 in 20 infected people develops severe dengue, which can lead to shock, internal bleeding and death.

In this lab study, researchers used high-resolution video to observe the blood-feeding behavior of dengue-infected and non-infected mosquitoes using mice. The videos were then analyzed using computer software.

Read more:
https://consumer.healthday.com/b-1-18-dengue-virus-makes-mosquitos-bite-more-often-2656400837.html

Environmental Health

Scientists Create Sponge-Like Material to Soak Up Phosphate from Polluted Waters

Researchers from Northwestern University in Illinois have created a sponge-like material capable of removing up to 99 percent of phosphate ions in polluted water.

The "sponge," technically known as the Phosphate Elimination and Recovery Lightweight (PEARL) membrane, is coated with nanostructures that bind to the phosphate ions. By fine-tuning the pH level of the sponge, the researchers can make it so that the sponge releases the ions. This allows them to use the sponge multiple times.

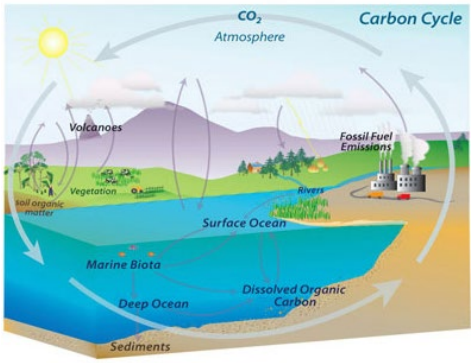
Read more:
https://www.nanotechnology.news/2021-06-07-scientists-create-sponge-to-clean-phosphate-pollution.html

Clearing the Air: Decarbonization Technologies Take a Giant Leap Forward

Carbon dioxide (CO_2) levels today are higher than at any point in the past 800,000 years or more.

During a year when terms like carbon neutrality and net zero have become more and more commonly used, it appears the world is waking up to the imperative underscored in every high-level climate

Global Carbon Cycle



assessment—humanity needs to make a drastic change to stem the most catastrophic climate change consequences.

Climate impacts are happening more quickly than many scientists had predicted. Greenhouse gases are making the planet hotter. That rise in temperature is disrupting the weather and climate system in profound and cascading ways.

Read more:
https://scitechdaily.com/clearing-the-air-decarbonization-technologies-take-a-giant-leap-forward/

Climate Change Set to Send Costs of Flooding Soaring – Pioneering Research Forecasts Financial Toll

Climate change could result in the financial toll of flooding rising by more than a quarter in the United States by 2050 – and disadvantaged communities will bear the biggest brunt, according to new research.

The University of Bristol-led study, published today (January 31, 2022) in Nature Climate Change, deployed advanced modeling techniques to make the colossal calculations, which forecasted average annual flood losses would increase by 26.4% from US$32 billion currently to US$40.6 billion in less than 30 years.

Read More:
Https://Scitechdaily.Com/Climate-Change-

Set-To-Send-Costs-Of-Flooding-Soaring-Pioneering-Research-Forecasts-Financial-Toll/

Many Schools Have High Lead Levels in Drinking Water – Researchers Have a Better Way to Identify Them

Consuming lead can cause health problems for anyone, but children are particularly vulnerable because the element can interfere with their growth and development. While water systems will soon be required to measure lead levels in school tap water, it's not clear how these measurements should be interpreted. In a new study in ACS' Environmental Science & Technology Letters, researchers used real-world data to determine an approach for identifying schools likely to have problematic lead levels.

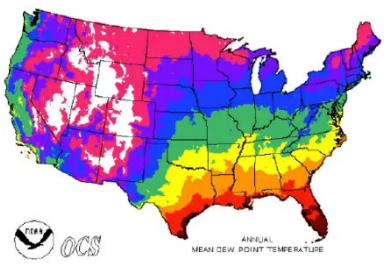
Under certain circumstances, pipes, faucets, and other plumbing system components can release lead into the water they carry. Research has shown that such contamination is widespread among schools, so the U.S. Environmental Protection Agency recently developed a plan to revise its rules on testing for lead in these buildings. The revision will require water systems to test for lead content based on five samples from a school. However, the amount of lead that shows up within a building's water can fluctuate, so some researchers are concerned that this approach won't accurately detect those schools with potentially problematic levels. Kelsey Pieper and colleagues wanted to take a closer look at the problem, and to see whether just five samples could be used to identify at-risk schools.

Read more: https://scitechdaily.com/many-schools-have-high-lead-levels-in-drinking-water-researchers-have-a-better-way-to-identify-them/

Measuring Climate Change: It's Not Just Heat, It's Humidity

When it comes to measuring global warming, humidity, not just heat, matters in generating dangerous climate extremes, a new study finds.

Researchers say temperature by itself isn't the best way to measure climate change's



weird weather and downplays impacts in the tropics. But factoring in air moisture along with heat shows that climate change since 1980 is nearly twice as bad as previously calculated, according to their study in Monday's Proceedings of the National Academy of Sciences.

Read more: https://phys.org/news/2022-01-climate-humidity.html

Ergonomics

Ergonomic Environment Critical to Well-Being of Eye Specialists

Musculoskeletal disorders are common among ophthalmologists.

The disorders develop slowly and progressively as a consequence of what may seem to be an innocuous routine: doing slit lamp examinations, laser treatments and gonioscopy, sitting on an operating chair and performing surgery. Early signs and symptoms are often overlooked, and structural changes happen silently, eventually leading to disabling or even irreversible damage.

Read more: https://www.healio.com/news/ophthalmology/20220105/ergonomic-environment-critical-to-wellbeing-of-eye-specialists

Safety

Decontamination of Metals from Firefighter Turnout Gear

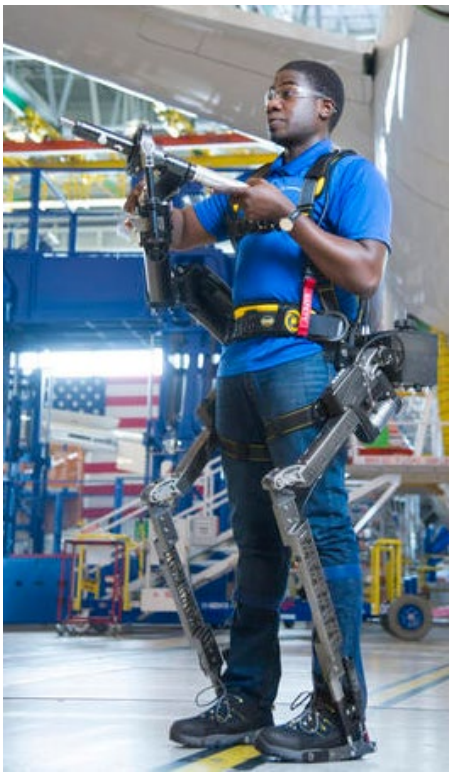
Firefighters are exposed to many different contaminants during structural fires. Moreover, if their protective gear is not successfully decontaminated, firefighters are at risk of being repeatedly exposed to

contaminants from previous fires. Thus, the successful removal of contaminants from firefighter turnout gear is necessary to prevent or reduce repeated exposure risks. Laundering methods can reduce the probability of re-exposure to contaminants, such as heavy metals, thus reducing repeated exposure risks. In this study, the efficiencies of heavy metal removal from the firefighter turnout gear outer textile by Decon7 cleaning solution and a standard reference detergent were compared. Nitric acid digests were used to extract metals from textile samples, which were cut from small sections of firefighter jackets, before and after their laundering with either cleaning solution. Inductively coupled plasma mass spectrometry (ICP-MS) was utilized to determine metal contents, including arsenic (As), antimony (Sb), cadmium (Cd), chromium (Cr), and lead (Pb) concentrations. Results from multiplicate samples indicated that, on average, Decon7 was significantly more efficient than a standard detergent in decreasing the concentrations of the five metals studied herein.

Read more: Published online: Journal of Occupational and Environmental Hygiene, 25 Jan 2022(Available with AIHA membership)

Online Tool Designed to Identify 'The Right Places' to Use Workplace Exoskeletons

A free online tool developed by researchers at Vanderbilt University is intended to help employers assess how and where exoskeletons could help reduce work-related back injuries "without the need for costly and time-consuming experiments."



Exoskeletons are used in a variety of industries to relieve physical strain and overexertion, which accounts for 38.5% of work-related musculoskeletal disorders, a university press release states, citing data from the Bureau of Labor Statistics.

Exo-LiFFT is an interactive calculator designed to help employers who are "looking for ways to overcome workforces struggling with musculoskeletal injuries, missed work and accelerated retirement amongst skilled laborers."

Read more:
https://www.safetyandhealthmagazine.com/articles/22110-online-tool-designed-to-identify-the-right-places-to-use-workplace-exoskeletons

Flowered Steering: How Well Do Drivers Fare After Smoking Cannabis?

The steady rise in the use of cannabis—18 states have legalized recreational use, 13 have decriminalized its use and 36 have medical cannabis laws—has provoked myriad questions and concerns about public health implications, including how cannabis may affect the abilities, real and perceived, of drivers under the influence.

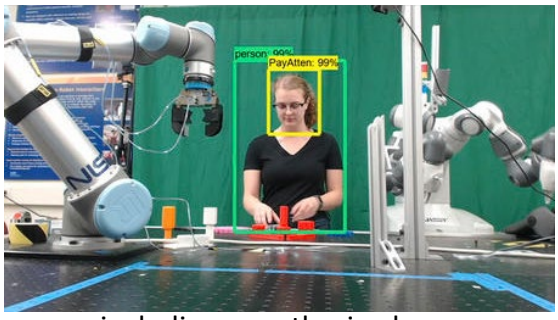
In a novel, two-year randomized trial, conducted at the Center for Medicinal Cannabis Research (CMCR) at University of California San Diego School of Medicine, researchers recruited 191 regular cannabis users to partake of cannabis containing different levels of delta-9-tetrahydrocannabinol (THC), the psychoactive compound in cannabis or a placebo immediately before a series of driving simulation tests over several hours.

Read more:
https://medicalxpress.com/news/2022-01-drivers-fare-cannabis.html

Construction Safety Report Looks at Hazard Prevention for Human-Robot Interactions

To help assess and quantify human-robot interaction safety hazards on construction worksites, a recently published report from CPWR – The Center for Construction Research and Training details a newly developed practical process and includes tools for practitioners.

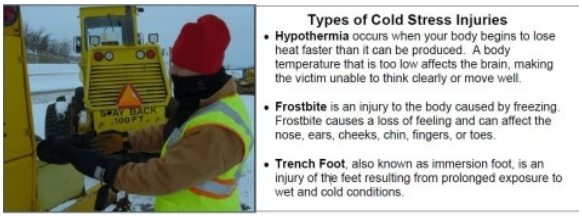
CPWR researchers looked at hazards linked to the use of robotics and automation, such as drones, exoskeletons and “single-task” construction robots. They identified 40 such hazards and classified them into seven



groups, including unauthorized access or operational situation awareness, mechanical concerns, power systems, and improper installation.

Read more:
https://www.safetyandhealthmagazine.com/articles/22092-construction-safety-report-looks-at-hazard-prevention-for-human-robot-interactions

Back to Basics: Cold Stress



As it continues to get colder, it is important to revisit the safety measures that employers can take to make sure that all of their personnel remain safe this winter. According to OSHA, winter weather can present hazards such as slippery roads and surfaces, strong winds, and environmental cold that can lead to illnesses, injuries, or fatalities. All of these can happen if employees are exposed to cold stress.

Types of cold stress
Environmental cold can affect any employee who works in cold air temperatures, including outdoor workers, recreational workers, snow cleanup crews, construction workers, transit and baggage workers, landscapers, police officers, and firefighters. Wind chill can make it feel even colder outside, and it's in these conditions that employees are at risk of cold stress.

Read more:
https://ehsdailyadvisor.blr.com/2022/01/back-to-basics-cold-stress/

Emergency Preparedness

GAO Questions Whether FEMA Could Cope with a Catastrophic Natural Disaster

The Government Accountability Office has testified about the challenges facing the Federal Emergency Management Agency's (FEMA) workforce, based on the watchdog's previous work between July 2015 and August 2021.

GAO said that FEMA's staffing shortages are exacerbated by the increasing frequency of disasters. Many responders have declined deployments to recent disasters because of

burnout or severe conditions in the field. FEMA also has challenges ensuring staff are sufficiently trained and qualified.

The watchdog testified that it has made numerous recommendations in prior reports to help FEMA better ensure it is able to manage a catastrophic disaster or concurrent disasters, and added that FEMA is taking steps to address them.

Read more:
https://www.hstoday.us/subject-matter-areas/emergency-preparedness/gao-questions-whether-fema-could-cope-with-a-catastrophic-natural-disaster/

Deployment Health

New Study Reports on How Veterans' Health, Well-Being Changes During the First Three Years after Discharge

More than 200,000 individuals leave the U.S. military service every year and understanding their transition to civilian life is an important public health issue. This study is the first to examine how the health and broader well-being of the U.S. veteran population changes in the first several years after they leave military service.
In a large national study of veterans who left service in 2016 researchers at Boston University School of Medicine (BUSM) and the VA Boston Healthcare System found that the proportion of U.S. veterans reporting good health and broader well-being decreased rather than increased during the following three years.

Read more:
https://medicalxpress.com/news/2022-01-veterans-health-well-being-years-discharge.html

Nanotechnology

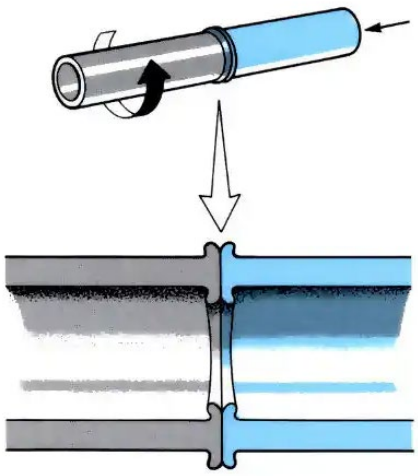
Nanoparticle Additives Help Improve Welding Quality

Rotatory friction welding (RFW) is a strong connecting procedure for plastics, also known as spin welding.

Two chucks hold the components during the welding process, one rotating and the other fixed. The desired heat is generated by the friction of connecting the components. The chuck, as well as the rotating and heating stages, is continuously driven by the driving motor.

The driving motor is turned off and friction welding force binds the two materials together. While the spinning speed drops, it is possible for the deposited kinetic energy in the flywheel to be released at the weld surface as heat energy.

In engineering design, connecting different materials is quite important and has a wide range of applications.Using the Friction Stir



Welding (FSW) technique to connect various components has revolutionized engineering applications.

Read more:
https://www.azonano.com/news.aspx?newsID=38607

Regulatory Research & Industrial Hygiene Professional News

Executive Order

Biden Signs Executive Order Making Sexual Harassment an Offense in Military's Judicial Code

President Joe Biden on Wednesday signed an executive order designating sexual harassment as an offense in the US military's judicial code.

Biden took the step after it was included in this year's National Defense Authorization Act.
A provision in the NDAA required that the President take this step to make sexual harassment an "offense punishable," in the Uniform Code of Military Justice within 30 days of the bill becoming law. Biden signed that bill into law at the end of December. White House press secretary Jen Psaki said this change was a "key recommendation" from the Defense Department's Independent Review Commission on Military Sexual Assault. The commission released about 80 recommendations to reform the military justice system's handling of these issues in 2021. The Pentagon said they would implement all of the recommendations in September.

Read more:
https://www.cnn.com/2022/01/26/politics/sexual-harassment-military-justice/index.html

FDA

FDA Releases Federal Interagency Working Group Scientific Opinions on Testing Methods for Asbestos in Talc-Containing Cosmetic Products

Today, the U.S. Food and Drug Administration released a white paper developed by the Interagency Working Group on Asbestos in Consumer Products (IWGACP) that contains scientific opinions for the testing of talc-containing cosmetics and talc intended for use in cosmetics for the possible presence of asbestos, a known human carcinogen with well-documented health risks. These opinions of scientific experts are intended to inform the FDA's consideration of testing methods for talc and talc-containing cosmetics.

Read more: https://www.fda.gov/news-events/press-announcements/fda-releases-federal-interagency-working-group-scientific-opinions-testing-methods-asbestos-talc

NIOSH

Respiratory Protection: NIOSH Publishes Toolbox Talk

Knowing how to select, use and maintain NIOSH-approved respirators can help promote proper respiratory protection practices and protect construction workers from unsafe airborne contaminants, according to a new toolbox talk published by the agency and CPWR – The Center for Construction Research and Training.

NIOSH and CPWR encourage employers to examine all avenues to reduce worker exposure to potentially dangerous dusts and fumes.

Read more:
https://www.safetyandhealthmagazine.com/articles/22089-respiratory-protection-niosh-publishes-toolbox-talk

DOL

Health-Care Virus Standard Close to Nine Months Away, OSHA Says

A new OSHA Covid-19 standard to protect health-care workers should be completed in six to nine months, the agency said Friday.

James Frederick, deputy assistant secretary of labor for occupational safety and health, revealed the timeline in a statement that is part of the agency's legal defense of its Dec. 27 decision to cancel the health-care Covid-19 emergency temporary standard.

The claim was made in response to a lawsuit filed Jan. 5 by several labor unions asking the U.S. Court of Appeals for the District of Columbia Circuit to revive the emergency standard..

Read more:
https://news.bloomberglaw.com/safety/health-care-virus-standard-close-to-nine-months-away-osha-says

Recent OSHA Enforcement Regarding the Retail Facility Exemption of the Process Safety Management Standard: Does the Fifty (50) Percent Standard Still Apply?


OSHA FACT Sheet
PSM of Highly Hazardous Chemicals

Section 1910.119(a)(2)(i) of the Process Safety Management (PSM) standard states that it does not apply to "retail facilities." The PSM standard does not apply to retail facilities, but there is no specific definition of what constitutes a retail facility. But in an Interpretation Letter dated June 19, 1992, OSHA provided a definition: "An employer is a retail facility if more than fifty (50) percent of its income is derived from the direct sale of the covered process to end users." This remained for more than two decades and is otherwise known as the "50

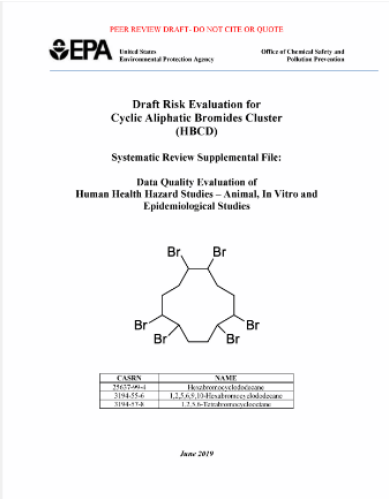
percent standard" within the regulated community.

Read more:
https://www.natlawreview.com/article/rec ent-osha-enforcement-regarding-retail-facility-exemption-process-safety

EPA

EPA Reverses Finding in Revised Draft Risk Evaluation for TSCA Chemical, Seeks Comment

The Environmental Protection Agency is seeking public comment on a revised draft risk evaluation that states Cyclic Aliphatic Bromide Cluster poses unreasonable risk under certain conditions – a reversal of previous findings that the chemical substance presents no unreasonable risk of injury to humans or the environment, according to a notice published in the Dec. 29 Federal Register.


PEER REVIEW DRAFT - DO NOT CITE OR QUOTE

EPA United States Environmental Protection Agency — Office of Chemical Safety and Pollution Prevention

Draft Risk Evaluation for
Cyclic Aliphatic Bromides Cluster
(HBCD)

Systematic Review Supplemental File:

Data Quality Evaluation of
Human Health Hazard Studies – Animal, In Vitro and
Epidemiological Studies

CASRN	NAME
3194-57-8	1,2,5,6,9,10-Hexabromocyclododecane

June 2019

Read more:
https://www.safetyandhealthmagazine.com/articles/22201-epa-reverses-finding-in-revised-draft-risk-evaluation-for-tsca-chemical-seeks-comment

EPA Announces Effort to Streamline Review of Climate-Friendly New Chemicals

On January 21, 2022, the U.S. Environmental Protection Agency (EPA) announced a new effort under the Toxic Substances Control Act (TSCA) to streamline the review of new chemicals that could be used to displace current, higher greenhouse gas (GHG) emitting transportation fuels. The Office of Chemical Safety and Pollution Prevention's (OCSPP) New Chemicals Division (NCD) has implemented a "robust, consistent, and efficient process to assess

the risk and apply mitigation measures, as appropriate, for substitutes to petroleum-based fuels and fuel additives that use biobased or waste-derived sources to produce biofuels

Read more:
https://www.jdsupra.com/legalnews/epa-announces-effort-to-streamline-3494608/

APHC

Training

As we continue to combat the COVID-19 virus, we are making our best efforts to provide you with Blueprint, Design Review, and Ventilation lessons that otherwise you'd travel to acquire.

Due to the changing MS TEAMS and DCS environments, and the ability to host a live event with hundreds of participants, we've been providing "Pre-recorded" webinar events.

All handouts are made available, and can be downloaded from your Blackboard webinar course shell with recorded material for you to view ad-hoc, and participation certificates awarded for each lesson survey/evaluation completed.

You may ask yourself "what's the difference between a live webinar and a pre-recorded webinar?"

Not only does a pre-recorded webinar allow you to view in your own time zone at a time most convenient for you, it allows us to edit and re-record segments, swap out segments that didn't work so well, add effects, graphics, and more in the post-production stage.

Pre-recorded webinars give a more polished effect than a live webinar. Right now, we're all adjusting to having more remote meetings, watching broadcasts instead of attending live events, and spending a little more time on our computers than doing surveys.

It is our goal to connect with you, getting you the relevant and emerging information you need to help your clients. Our sustainment webinars, whether live or pre-recorded, can help you achieve those goals.

How to participate in a "pre-recorded" webinar:

1. Navigate to your "Army Industrial Hygiene Webinar" shell on our Blackboard site https://aiph-dohs.ellc.learn.army.mil
2. Use the left navigation tile to locate SPECIAL EDITION WEBINARS
3. Select each webinar link to view
4. Record case sensitive code words while viewing
5. Use the left navigation tile to locate COLLECT CERTIFICATES
6. Select the link for your webinar and use code word to initiate certificate

NOTE: Our classroom space is not allowing traditional classroom courses due to the pandemic. We continue our efforts to provide relevant content that aligns with these courses via our webinars.


DOCUMENT LIBRARY
COLLECT CERTIFICATES
NEW WEBINARS
ASK THE SME RECORDINGS
MANAGE YOUR IH MONSTER RECORDINGS
ARMY IH FEILD OP MANUAL RECORDINGS
IH LEADER RECORDINGS
SPECIAL EDITION WEBINAR RECORDINGS
All slide handouts are here
Most recent recordings here
SME recording archive
MONSTER recording archive
FOM recording archive
LEADER recording archive
Special Edition archive


ABOUT THE "ASK THE SME" WEBINARS
These "Ask the SME" Webinars are about communicating freely with subject matter experts.
Most of the subject matter experts have lead in slides to spark conversation, and then take questions from the live a
If you are here, then you probably missed the live event. That's OKAY. This is why we provide recordings.
If you have questions for the subject matter experts that
ot addressed during the live event, we encourage yo
Description
SLIDE HANOUTS: Ask the SME Webinars
Enabled: Statistics Tracking
Attached Files:
11/4/2016 Monster: All About ANOVA (1.918 MB)
11/14/2018 SME: Hexavalent Chromium 48min (451.598 KB)
2/27/2019 SME: Ergonomics 51min (402.939 KB)
8/6/2019 SME: Pharmacy Hazardous Drug Samples 28min (1.569 MB)
3/4/2020 SME: APHC Analytical Lab (1.425 MB)
6/17/20 SME: IH Contract Technical Monitors (1.0hr) (773.407 KB)
OWAS Table.doc (90.5 KB)
Liberty Mutual Tables.pdf (874.9 KB)
OWAS Postures.pdf (135.149 KB)
12/2/20 SME: DOEHRS-IH Report Standardization 90min
Example Standardized Ergo Survey (4.361 MB)
Handouts
Download Handouts
Recordings
12/2/20 SME: DOEHRS-IH Report Standardization 90min
Enabled: Statistics Tracking
Look for slide handouts and a copy of the Army DOEHRS IH Buddy v0.7 in the SLIDE HANDOUTS above, or the DOCUMENT LIBRARY section of this course
12/2/20 SME: Downdraft Ventilation Q/A 7min
Enabled: Statistics Tracking

Downdraft Day	
12/2/20 Monster: Building Downdraft Tables in DOEHRS-IH (52min)	THEME: CONTROLING AIR CONTAMINANTS
12/2/20 Leader: Measuring Downdraft Tables (42min)	THEME: CONTROLING AIR CONTAMINANTS
12/2/20 SME: Downdraft Ventilation Q/A	THEME: CONTROLING AIR CONTAMINANTS
12/2/20 SME: DOEHRS-IH Report Standardization (30min)	THEME: MANAGING ARMY IH
12/2/20 Leader: Compressed Air use with Heavy Metals (30min)	THEME: CONTROLING AIR CONTAMINANTS

Vehicle Maintenance Day	
3/3/21 Monster: Building Vehicle Exhaust Ventilation in DOEHRS-IH (72min)	THEME: CONTROLING AIR CONTAMINANTS
3/3/21 Leader: Measuring Vehicle Exhaust Ventilation (50min)	THEME: CONTROLING AIR CONTAMINANTS
3/3/21 Leader: Vehicle Design Review (2hr)	THEME: CONTROLING AIR CONTAMINANTS
3/3/21 SME: Vehicle Exhaust Ototoxins (40min)	THEME: CONTROLING AIR CONTAMINANTS
3/3/21 SME: IH Manpower Study Survey (14min)	THEME: MANAGING ARMY IH

Coating/Painting Day	
6/2/2021 Monster: Building Paint Booths in DOEHRS-IH (60min)	THEME: CONTROLING AIR CONTAMINANTS
6/2/2021 Leader: Measuring Paint Booths (37min)	THEME: CONTROLING AIR CONTAMINANTS
6/2/2021 Leader: Paint Spray Design (65min)	THEME: CONTROLING AIR CONTAMINANTS
6/2/2021 SME: Data Mining DOEHRS-IH (Paintbooth Accident Investigation) (17min)	THEME: CONTROLING AIR CONTAMINANTS
6/2/2021 SME: DOEHRS Cadmium Data/Protecting Against Cadmium 49min	THEME: CONTROLING AIR CONTAMINANTS
6/2/2021 SME: Protecting Against Cadmium (combined with Cadmium Data)	THEME: CONTROLING AIR CONTAMINANTS
6/2/2021 Leader: Particle Size Selective Sampling 35min	THEME: SAMPLING
6/2/2021 Leader: IH Professional Sampling Kit 20min	THEME: SAMPLING
6/2/2021 SME: Surface Sampling 18min	THEME: SAMPLING

Laboratory/Healthcare Day	
9/1/2021 Monster: Building Lab Hood Ventilation in DOEHRS-IH (64min)	THEME: CONTROLING AIR CONTAMINANTS
9/1/2021 Monster: Building Dilution Ventilation in DOEHRS-IH (93min)	THEME: CONTROLING AIR CONTAMINANTS
9/1/2021 Leader: IH Value Strategy Laboratory Engineering Controls (17min)	THEME: CONTROLING AIR CONTAMINANTS
9/1/2021 SME: Sampling Qualifiers (15min)	THEME: SAMPLING
9/1/2021 Leader: Laboratory Design (2hr)	THEME: CONTROLING AIR CONTAMINANTS
9/1/2021 Leader: Methylene Chloride (Workplace, Data Mining, Virtual Tour) (2hr)	THEME: SAMPLING
9/1/2021 Leader: Healthcare Ventilation and Design (3hr)	THEME: CONTROLING AIR CONTAMINANTS
9/1/2021 Leader: OHS for Laboratory/Healthcare (Overview, Risk Management, IH Role, Virtual Tours) (3hr)	THEME: SAMPLING
9/1/2021 Leader: Modeling Laboratory/Healthcare Exposures in DOEHRS-IH (60min)	THEME: CONTROLING AIR CONTAMINANTS
9/1/2021 Leader: Laboratory/Healthcare Compliance Survey Tour (2hr)	THEME: SURVEY
9/1/2021 SME: Ergonomic Patient Handling (28min)	THEME: HAZARD EVALUATION AND CONTROL

REVIEW	***Recommended Healthcare/Laboratory lessons if you have not already viewed these previously)***
Leader	Adventures in Ventilation at Natick Laboratories (68min)
Monster	Pathology, Grossing, Morgue, Tissue, and Death Care (1.5hr)
SME	Pharmacy Hazardous Drug Samples (28min)
Leader	Audiometric Booth Testing and Certification (17min)

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

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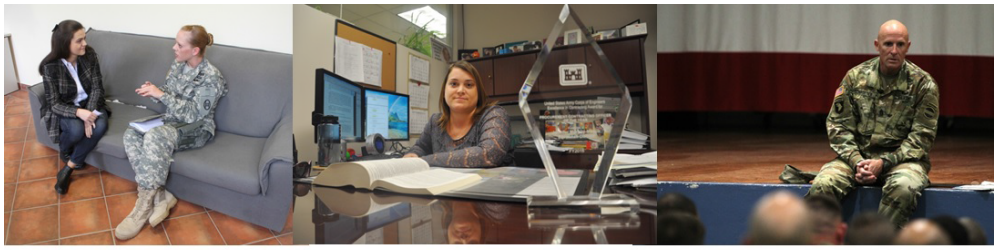
On the Web:
http://phc.amedd.army.mil/topics/workplacehealth/ih/Pages/default.aspx



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.