June 2019,
Issue 93

Army Industrial Hygiene News and Regulatory Summary

Hazardous Substances

Pig-Pen Effect: Mixing Skin Oil And Ozone Can Produce A Personal Pollution Cloud

Special Interest Articles:

When ozone and skin oils meet, the resulting reaction may help remove ozone from an indoor environment, but it can also produce a personal cloud of pollutants that affects indoor air quality, according to a team of researchers.

Several pilot schemes are beginning to monitor and measure the levels of air pollution experienced by people working and living in London. Their findings will be instrumental in developing recommendations for reducing people's exposure to air pollution in the capital.
In a computer model of indoor environments, the researchers show that a range of volatile and semi-volatile gases and substances are produced when ozone, a form of oxygen that can be toxic, reacts with skin oils carried by soiled clothes, a reaction that some researchers have likened to the less-than-tidy Peanuts comic strip character.

"When the ozone is depleted through human skin, we become the generator of the primary products, which can cause sensory irritations," said Donghyun Rim, assistant professor of architectural engineering and an Institute for CyberScience associate, Penn State. "Some people call this higher concentration of pollutants around the human body the personal cloud, or we call it the 'Pig-Pen Effect.'"

Read more:
https://www.sciencedaily.com/releases/2019/06/190628120533.htm

Contents:

New Illinois Law Amends Statute of Limitations on Civil Suits over Workplace Exposure to Toxic Substances

ILLINOIS.GOV

A new Illinois law permits workers who have developed latent injuries or illnesses from on-the-job exposure to toxic substances to pursue legal judgments against employers beyond the previous statute of limitations.

Signed into law May 17 by Gov. J.B. Pritzker (D) and effective immediately, S.B. 1596 makes exceptions to the 25-year statute of limitations imposed by the Illinois Workers' Compensation Act and the Workers' Occupational Diseases Act for cases of workplace exposure to toxic substances such as asbestos, radiation and beryllium, allowing affected workers to seek civil damages beyond that time frame.

Read more:
https://www.safetyandhealthmagazine.com/articles/18540-new-illinois-law-amends-statute-of-limitations-on-civil-suits-over-workplace-exposure-to-toxic-substances

Dangerous For Workers': Study Looks at Air Quality in Colorado Nail Salons

The amount of air pollutants in nail salons can make working in one comparable to working at an oil refinery or in an auto repair garage, according to a study from the University of Colorado Boulder.

Researchers from the university's department of civil, environmental and architectural engineering monitored levels of volatile organic compounds in six nail salons in the state. Workers studied averaged 52.5 hours a week, and some worked as many as 80 hours.

Read more:
https://www.safetyandhealthmagazine.com/articles/18527-dangerous-for-workers-study-looks-at-air-quality-in-colorado-nail-salons

Firefighters' Absorption of PAHs and VOCs during Controlled Residential Fires by Job Assignment and Fire Attack Tactic

To better understand the absorption of combustion byproducts during firefighting, we performed biological monitoring (breath and urine) on firefighters who responded to controlled residential fires and examined the results by job assignment and fire attack tactic. Urine was analyzed for metabolites of polycyclic aromatic hydrocarbons (PAHs) and breath was analyzed for volatile organic compounds (VOCs) including benzene. Median concentrations of PAH metabolites in urine increased from pre-firefighting to 3-h post firefighting for all job assignments. This change was greatest for firefighters assigned to attack and search with 2.3, 5.6, 3.9, and 1.4-fold median increases in pyrene, phenanthrene, naphthalene, and fluorene metabolites. Median exhaled breath concentrations of benzene increased 2-fold for attack and search firefighters ($p < 0.01$) and 1.4-fold for outside vent firefighters ($p = 0.02$).

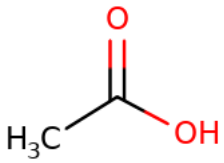
Read more:
https://www.nature.com/articles/s41370-019-0145-2

Estimating the Time-Varying Generation Rate of Acetic Acid from an All-Purpose Floor Cleaner

Understanding the relationship between consumer product use and risk of adverse health outcomes facilitates appropriate risk management and product stewardship. A preferred method for estimating the systemic and respiratory tract exposure and dose tailored to cleaning products use has been proposed, refining previously issued exposure guidance. Consistent with other exposure and risk-assessment frameworks, it is dependent upon high-quality exposure

ACETIC ACID

CASRN: 64-19-7



determinant data that also serve as model inputs. However, as publicly available exposure determinant data are scarce, the risk assessor is left with the option of estimating determinants such as the generation rate or employing empirical methods to estimate them. When the exposure scenario involves a chemical mixture, estimating the generation rate may not be feasible.

Read more: https://www.nature.com/articles/s41370-019-0142-5

Understanding Airborne Contaminants Produced by Different Fuel Packages during Training Fires

Fire training may expose firefighters and instructors to hazardous airborne chemicals that vary by the training fuel. We conducted area and personal air sampling during three instructional scenarios per day involving the burning of two types (designated as alpha and bravo) of oriented strand board (OSB), pallet and straw, or the use of simulated smoke, over a period of 5 days. Twenty-four firefighters and ten instructors participated. Firefighters participated in each scenario once (separated by about 48 hr) and instructors supervised three training exercise per scenarios (completed in 1 day). Personal air samples were analyzed for polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and hydrogen cyanide during live-fire scenarios (excluding simulated smoke). Area air samples were analyzed for acid gases, aldehydes, isocyanates, and VOCs for all scenarios. For the live-fire scenarios, median personal air concentrations of benzene and PAHs exceeded applicable short-term exposure limits and were higher among firefighters than instructors. When comparing results by type of fuel, personal air concentrations of benzene and PAHs were higher for bravo OSB compared to other fuels. Median area air concentrations of aldehydes and isocyanates were also highest during the bravo OSB scenario, while pallet and straw produced the highest median concentrations of certain VOCs and acid gases. These results suggest usage of self-contained breathing apparatus (SCBA) by both instructors and firefighters is essential during training fires to reduce potential inhalation exposure. Efforts should be taken to clean skin and clothing as soon as possible after live-fire training to limit dermal absorption as well.

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

06 Jun 2019 (Available with AIHA membership)

Evaluation of Waste Anesthetic Gas Surveillance Program and Isoflurane Exposures during Animal and Human Surgery

Prolonged occupational exposure to waste anesthetic gases may have the potential to cause adverse health effects. Workplace exposure surveillance programs are intended to reduce health risk by evaluating exposures to waste anesthetic gases during surgical procedures. Both the personal breathing-zone and area measurements are used to assess occupational exposure in the operating theater. Direct-reading instruments provide real-time measurements and are useful for identifying leaks and evaluating on-the-spot corrective actions. Passive diffusion monitors quantify occupational exposures over time during surgery. The aim of this study was to evaluate a waste anesthetic gas surveillance program to understand occupational exposures and further improve data collection strategy. For this study, 76 survey reports from 2012 through 2014 were retrospectively reviewed to assess occupational exposures to isoflurane in 58 unique procedural rooms operated by the National Institutes of Health. The surveys included industrial hygiene assessments performed during animal and human surgical procedures. The survey reports were evaluated qualitatively and data from these reports was transcribed for quantitative analysis. Variations in sample strategy were observed between surveys and were attributed to ambiguity in the written surveillance program. The study

also evaluated the relationship between isoflurane concentrations and sampling method, sampling location, patient type, or scavenging method. Isoflurane exposures were significantly higher among procedures performed on rodents compared to the patients with a large body mass (humans, non-human primates, and swine) ($P < 0.05$) and in procedures using the charcoal canister exhaust system compared with the central vacuum exhaust system. In addition, individuals performing the surgical procedure experienced elevated occupational exposures measured by both direct-reading instrument and passive diffusion monitors, that is, exposure was significantly higher as measured at the breathing-zone compared with any area

within the room ($P < 0.05$). The study identified several inconsistencies and shortcomings in the surveillance program. Isoflurane concentrations measured during rodent procedures requires further review of work practices and engineering controls. Overall, the findings provide insights to further improve data collection, monitoring, and control of isoflurane exposures.

Read more: Journal of Occupational and Environmental Hygiene, Published online: 28 Jun 2019 (Available with AIHA membership)

Radiation

NIOSH Identifies Controls to Improve IEQ in Hospital Radiology Department

A NIOSH investigation of a radiology department in a government-run hospital identified several engineering and administrative controls to help improve indoor environmental quality at the facility. The agency's evaluation focused on assessing the building's ventilation system, evaluating employee concerns, and characterizing black particles coming out of the supply air vents in the radiology department. NIOSH's visit was initiated through a request from a union representative at the hospital who described workers' concerns about IEQ, comfort issues, and the particles from the vents.

Read more:
https://www.aiha.org/publications-and-resources/TheSynergist/Industry%20News/Pages/NIOSH-Identifies-Controls-to-Improve-IEQ-in-Hospital-Radiology-Department.aspx

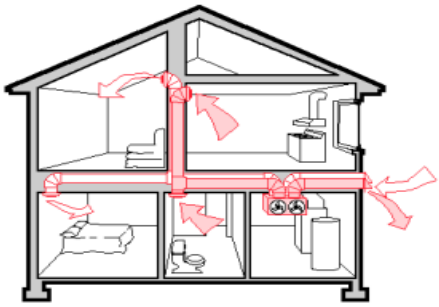
French Agency Examines Health Effects of Exposure to Blue Light

The French Agency for Food, Environmental and Occupational Health and Safety, ANSES, has updated its opinion on the health effects related to exposure to lighting systems that use light-emitting diodes, or LEDs. ANSES first highlighted the "retinal toxicity" of blue light, or light rich in short wavelengths emitted by LEDs, in a report published in 2010. The agency's updated opinion—dated April 5, 2019—describes new scientific data that it says confirms its previous findings regarding the toxicity of blue light.

Read more: https://www.aiha.org/publications-and-resources/TheSynergist/Industry%20News/Pages/French-Agency-Examines-Health-Effects-of-Exposure-to-Blue-Light.aspx

Ventilation

How Much Noise Should You Accept In Your Home?



"People should not be forced to choose between intolerable noise or poor indoor air quality in their homes."

Architect Mark Siddall points to a study he was on the team for: How loud is too loud? Noise from domestic mechanical ventilation systems. It is relevant to the Passive House crowd and anyone working in high performance or multifamily housing. They are writing from a UK perspective, but should be particularly interesting for North Americans, who are inured to high levels of noise because most live in homes with forced air heating and air conditioning systems that have a constant background noise, usually about 35 dB.

The study notes that in the US, "It is speculated that a possible reason for the higher permissible sound levels from mechanical services is due to the greater cultural acceptance of this type of noise, with mechanical services having greater penetration in North America."

Read more:
https://www.treehugger.com/green-architecture/how-much-noise-should-you-accept-your-home.html

PPE

Evaluation of Disposable Protective Garments against Isocyanate Permeation and Penetration from Polyurethane Anticorrosion Coatings

Background
Polyurethanes are a class of isocyanate-based organic coatings commonly used to control corrosion on high-value metallic structures. Despite their widespread use, dermal exposure to these isocyanate-containing coatings presents a significant occupational health risk to workers, including the development of allergic and irritant contact dermatitis and systemic sensitization. At present, little is known about the effectiveness of the protective garments commonly used to prevent dermal exposure to polyurethane coatings in construction trades.

Objectives
The primary objective of this study was to measure the permeation and penetration of isocyanates from polyurethane anticorrosion coatings though a selection of protective garments. In addition, a standardized spray procedure using a fixed-position spraying technique was evaluated as an option to minimize variability in coating application.

Read more:
https://academic.oup.com/annweh/article-abstract/63/5/592/5487049?redirectedFrom=fulltext

Noise

Reducing Brain Inflammation Could Treat Tinnitus and Other Hearing Loss-Related Disorders

Inflammation in a sound-processing region of the brain mediates ringing in the ears in mice that have noise-induced hearing loss, according to a study publishing June 18 in the open-access journal PLOS Biology by Shaowen Bao of the University of Arizona, and colleagues.

Hearing loss is a widespread condition that affects approximately 500 million individuals, and is a major risk factor for tinnitus—the perception of noise or ringing in the ears. Recent studies indicate that hearing loss causes inflammation—the immune system's response to injury and infection—in the auditory pathway.

Read more: https://medicalxpress.com/news/2019-06-brain-inflammation-tinnitus-loss-related-disorders.html

Preventive Medicine

A Hidden Truth: Hospital Faucets Are Often Home to Slime and Biofilm

Hand hygiene is a critical component of infection prevention in hospitals, but the unintended consequences include water splashing out of a sink to spread contaminants from dirty faucets according to new research presented last week in Philadelphia at the 46th Annual Conference of the Association for Professionals in Infection Control and Epidemiology (APIC).

Researchers at the University of Michigan Health System assessed eight different designs across four intensive care units to determine how dirty sinks and faucets really are. They found that a shallow depth of the sink bowl enabled potentially contaminated water to splash onto patient care items, healthcare worker hands, and into patient care spaces -- at times at a distance of more than four feet from the sink itself.

Read more:
https://www.sciencedaily.com/releases/2019/06/190626160330.htm

Age, Income Affect Workplace Health Program Participation Levels

A new study by researchers at the National Institute for Occupational Safety and Health (NIOSH) found that close to 47% of workers have access to workplace health promotion programs, and among those with access, only 58% of workers take advantage of them. The study was recently published in the American Journal of Health Promotion.

Worksites, where the majority of working adults spend their time, are an ideal place to offer health promotion programs that could improve workers' physical and mental health. However, many workers with access to workplace health promotion programs (WHPPs) had never participated in any of these programs. Since each workplace is unique, this study recommends that employers evaluate and tailor WHPPs based on their workers' needs to improve participation

Read more:
https://www.ishn.com/articles/111019-age-income-affect-workplace-health-program-participation-levels

Staph Aureus Found on 40 Percent of Cell Phones at One University: Study

New research has demonstrated the presence of S. aureus in 40% of the cell phones of students sampled at a university. S. aureus is a common cause of hospital and community-based infections and is currently considered an important pathogen because of its level of antibiotic resistance. The research, conducted at the Western University of São Paulo, Brazil, is

presented at ASM Microbe, the annual meeting of the American Society for Microbiology.

Read more:
http://outbreaknewstoday.com/staph-aureus-found-on-40-percent-of-cell-phones-at-one-university-study-88307/

Two Hours a Week Is Key Dose of Nature for Health and Wellbeing

Spending at least two hours a week in nature may be a crucial threshold for promoting health and wellbeing, according to a new large-scale study.

Research led by the University of Exeter, published in Scientific Reports and funded by NIHR, found that people who spend at least 120 minutes in nature a week are significantly more likely to report good health and higher psychological wellbeing than those who don't visit nature at all during an average week. However, no such benefits were found for people who visited natural settings such as town parks, woodlands, country parks and beaches for less than 120 minutes a week.

Read more:
https://www.sciencedaily.com/releases/2019/06/190613095227.htm

Scientists Find Thirdhand Smoke Affects Cells in Humans

Thirdhand smoke can damage epithelial cells in the respiratory system by stressing cells and causing them to fight for survival, a research team led by scientists at the University of California, Riverside, has found. The finding could assist physicians treating patients exposed to thirdhand smoke.

"Our data show that cells in humans are affected by thirdhand smoke," said Prue Talbot, a professor in the Department of Molecular, Cell and Systems Biology, who led the research. "The health effects of THS, have been studied in cultured cells and animal models, but this is the first study to show a direct effect of thirdhand smoke on gene expression in humans."

Read more:
https://eurekalert.org/pub_releases/2019-06/uoc--sft062819.phpp

Environmental Health

Predictors of Toxic Metal Exposures among US Women of Reproductive Age

Background
Arsenic, cadmium, lead, and mercury are ubiquitous toxicants that may be especially harmful to unborn children. We therefore sought to identify temporal trends and predictors of toxic metal biomarkers among US women of reproductive age, including those who were pregnant and/or breastfeeding.

Methods
Interviews and examinations were performed among a representative sample of women, aged 20–44 years, as part of the 2003–2014 National Health and Nutrition Examination Surveys. A range of sociodemographic, lifestyle, and dietary factors were evaluated as predictors of urinary inorganic arsenic, urinary cadmium, blood mercury, and blood lead concentrations.

Read more:
https://www.nature.com/articles/s41370-019-0152-3

Proposed Key Characteristics of Male Reproductive Toxicants as an Approach for Organizing and Evaluating Mechanistic Evidence in Human Health Hazard Assessments

Background:
Assessing chemicals for their potential to cause male reproductive toxicity involves the evaluation of evidence obtained from experimental, epidemiological, and mechanistic studies. Although mechanistic evidence plays an important role in hazard identification and evidence integration, the process of identifying, screening and analyzing mechanistic studies and outcomes

is a challenging exercise due to the diversity of research models and methods and the variety of known and proposed pathways for chemical-induced toxicity. Ten key characteristics of carcinogens provide a valuable tool for organizing and assessing chemical-specific data by potential mechanisms for cancer-causing agents. However, such an approach has not yet been developed for noncancer adverse outcomes.

Read more:
https://ehp.niehs.nih.gov/doi/10.1289/EHP5045

Plastic Water Bottles May One Day Fly People Cross-Country

A research group led by Washington State University scientists has found a way to turn daily plastic waste products into jet fuel.

In a new paper published in the journal Applied Energy, WSU's Hanwu Lei and colleagues melted plastic waste at high temperature with activated carbon, a processed carbon with increased surface area, to produce jet fuel.

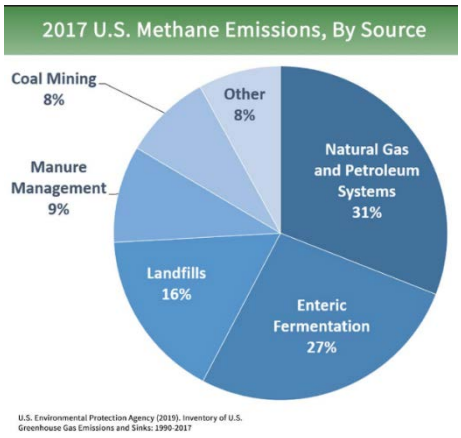
Read more:
https://www.eurekalert.org/pub_releases/2019-06/wsu-pwb060319.php

Researchers Develop New Method to Gauge Atmosphere's Ability to Clear Methane

New research by UMBC's Glenn Wolfe and collaborators is shaping how scientists understand the fate of methane, a potent greenhouse gas, in Earth's atmosphere. Of the greenhouse gases, methane has the third greatest overall effect on climate after carbon dioxide and water vapor. And the longer it stays in the atmosphere, the more heat it traps. That's why it's essential for climate models to properly represent how

long methane lasts before it's broken down. That happens when a methane molecule reacts with a hydroxyl radical---an oxygen atom bound to a hydrogen atom, represented as OH---in a process called oxidation. Hydroxyl radicals also destroy other hazardous air pollutants.

Read more:
https://www.eurekalert.org/pub_releases/2019-06/uomb-rdn060319.php



Ergonomics

Consistency of Sedentary Behavior Patterns among Office Workers with Long-Term Access to Sit-Stand Workstations

Introduction
Sit-stand workstations are a popular intervention to reduce sedentary behavior (SB) in office settings. However, the extent and distribution of SB in office workers long-term accustomed to using sit-stand workstations as a natural part of their work environment are largely unknown. In the present study, we aimed to describe patterns of SB in office workers with long-term access to sit-stand workstations and to determine the extent to which these patterns vary between days and workers.

Methods
SB was objectively monitored using thigh-worn accelerometers for a full week in 24 office workers who had been equipped with a sit-stand workstation for at least 10 months. A comprehensive set of variables describing SB was calculated for each workday and worker, and distributions of these variables between days and workers were examined.

Read more:
https://academic.oup.com/annweh/article-abstract/63/5/583/5476055?redirectedFrom=fulltext

Safety

New Hazard Alert from Washington L&I: Tower Cranes

A new hazard alert from the Washington State Department of Labor & Industries outlines the roles, responsibilities and procedures of erecting and dismantling tower cranes.

Published in June, the alert is intended for tower crane owners, contractors and their employees who use, erect and dismantle tower cranes. The two-page publication goes over planning and communication, as well as who can serve as an assembly/disassembly director – defined in the alert as "one who is competent and a qualified person, or a competent person assisted by one or more qualified people."

Read more:
https://www.safetyandhealthmagazine.com/articles/18616-new-hazard-alert-from-washington-li-tower-cranes

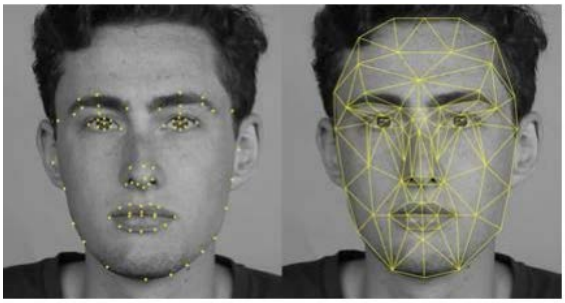
Benchmarking Heat Index as an Occupational Exposure Limit for Heat Stress

While wet bulb globe temperature (WBGT) is the long-accepted index to represent the environmental contributions to heat stress, Heat Index (HI) is a commonly reported index and is used for heat stress guidance. The purpose of this article was to propose an HI-based heat stress exposure limit. The data came from previous progressive heat stress studies that identified the critical conditions between sustainable and unsustainable exposures. The experimental trials included five clothing ensembles at three levels each of relative humidity (rh) and metabolic rate (M). The critical Heat Index (HIcrit) was used to characterize the trial exposure. An analysis of variance (ANOVA) assessed the effects of M, clothing, and rh on HIcrit. After proposing a relationship between HIcrit and M to represent a benchmark exposure limit based on HI (called HIbel), the ability of the

proposed relationship to discriminate between Sustainable and Unsustainable conditions was assessed using receiver operating characteristics curves (ROC curves). Based on the ANOVA results, the main effects of M, rh, and clothing on HIcrit were significant; the interaction between rh and clothing was not significant. There were differences in mean HIcrit among all the ensembles. For effects of relative humidity on HIcrit, the mean HIcrit at rh at 20% was 3 °C lower than the mean values for 50% and 70%. The benchmark exposure limit from the woven clothing data was HIbel [°C] = 49–0.026 M [W]. In terms of the ability of HIbel to discriminate, area under the ROC curve was 0.86, which was similar to WBGT-based exposure limits. Similar in purpose for WBGT-based exposure assessment, HI clothing adjustment values (HIcav) of 1.5 °C (particle barrier coveralls), 6 °C (water barrier coveralls), and 18.5 °C (vapor barrier coveralls) were supported. It should also be noted that the effects of the sun and lack of acclimatization were not included in this analysis; where the sun might reasonably increase the effects of the ambient HI by an additional 3.5 °C and being unacclimatized by 5.5 °C.

Read more: Journal of Occupational and Environmental Hygiene, Published online: 24 Jun 2019 (Available with AIHA membership)

Using Facial Recognition Technology to Continuously Monitor Patient Safety in the ICU



A team of Japanese scientists has used facial recognition technology to develop an automated system that can predict when patients in the intensive care unit (ICU) are at high risk of unsafe behaviour such as accidentally removing their breathing tube, with moderate (75%) accuracy.

The new research, being presented at this year's Euroanaesthesia congress (the annual meeting of the European Society of Anaesthesiology) in Vienna, Austria (1-3 June), suggests that the automated risk detection tool has the potential as a continuous monitor of patient's safety and could remove some of the limitations associated with limited staff capacity that make it difficult to continuously observe critically-ill patients at the bedside..

Read more:
https://www.eurekalert.org/pub_releases/2019-06/eso-ufr053019.php

New Clinical Guide Helps Physicians Identify Risk, Talk With Patients about Firearm Safety and Injury

Clinicians often feel that they have a role in preventing firearm injury. But few talk with patients about the risk of firearms and safe firearm practices during office visits.

Physicians and researchers at the UC Davis Violence Prevention Research Program (VPRP), Brown University, the University of Colorado and Stanford University are looking to change that. They've developed a clinical guide to help providers get more comfortable recognizing a patient's risk of firearm injury or death. It also helps them talk with patients about firearm safety and teaches them how to intervene in emergency situations.

WHAT YOU CAN DO to stop firearm violence

UC Davis Violence Prevention Research Program

Read more: https://www.eurekalert.org/pub_releases/2019-06/uoc--ncg060519.php

Nurses Have an Increased Risk of Sleep Disorders and Sleep Deprivation

According to preliminary results of a new study, there is a high prevalence of insufficient sleep and symptoms of common sleep disorders among medical center nurses.

Results show that 49% of participating nurses at an academic medical center averaged less than 7 hours of sleep per night, and the overall average nightly sleep time was 6.6 hours. Symptoms consistent with chronic insomnia were identified in 31% of nurses, and excessive daytime sleepiness was found in 4.5% of them. Twenty-seven percent of nurses used medications to help them sleep, and 13% reported using medications to stay awake. Symptoms indicative of shift work disorder were present in 31% of nurses. About 18.5% of nurses also had a moderate-to-severe risk for obstructive sleep apnea.

Read more:
https://www.eurekalert.org/pub_releases/2019-06/aaos-nha060719.php

Emergency Preparedness

Navigation App Provides First Responders with Best Routes

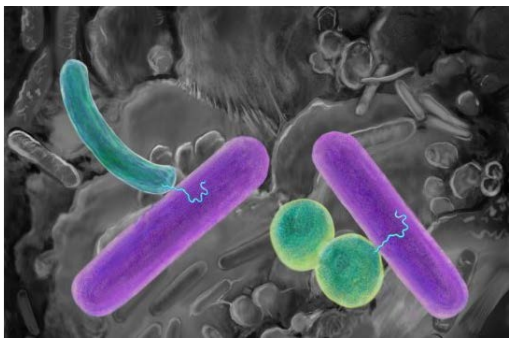
The Department of Homeland Security's Science and Technology Directorate (S&T) has partnered with Azimuth1 to develop a navigation app called QuickRoute, specially designed for first responders.

The app warns users about hazards along the route and takes into account factors like traffic accidents, weather events, or the size and weight of their vehicles that can delay response time.

Read more:
https://homelandprepnews.com/stories/34239-navigation-app-provides-first-responders-with-best-routes/

Deployment Health

U.S. Army Making Synthetic Biology a Priority



The U.S. Army's new Futures Command is accelerating research into synthetic biotechnology to help the military develop next-generation living camouflage and other never-before-seen organisms and materials. Patrick Tucker writers in Defense One that the U.S Army labs have long had a mandate to study biology, but in April, the lab quietly elevated the study of synthetic biology to one of its top ten priorities. New thermal cloaking, insect proof uniforms are on the horizon, if the U.S. can get out in front of China.

Read more:
http://www.homelandsecuritynewswire.com/dr20190701-u-s-army-making-synthetic-biology-a-priority

Nanotechnology

Portable Gas Detection Shrinks to New Dimensions

A sensor for detecting toxic gases is now smaller, faster and more reliable. Its performance sets it up for integration in a highly sensitive portable system for detecting chemical weapons. Better miniature sensors can also rapidly detect airborne toxins where they occur, providing key information to help emergency personnel respond safely and effectively to an incident.

Chemical identification typically involves collecting a sample at the scene of a chemical release and bringing it back to a room full of equipment operated by trained personnel. The machines sift through a sample of various gases and weigh the molecules to determine their identities. And

while portable versions of these instruments, known as mass spectrometers, are commercially available, they are less sensitive than their lab-based counterparts.

Read more:
https://www.nanowerk.com/nanotechnology-news2/newsid=53071.php

Regulatory Research & Industrial Hygiene Professional News

AIHA

Two New Safety Certifications Unveiled by AIHA

Occupational safety and health professionals can now pursue two new certificate programs offered by the American Industrial Hygiene Association (AIHA), the group announced. The AIHA will now certify qualified professionals in assessing workplace chemical exposures

and using instruments to detect gases and vapors.

Read more: https://ehsdailyadvisor.blr.com/2019/06/two-new-safety-certifications-unveiled-by-aiha/

Congress

Hot Cars Claim 16 Children's Lives this Summer as Car Safety Bill is Introduced

As summer temperatures rise, car safety advocacy groups hoping to draw attention to hot car deaths will be aided by a bill intended to equip new vehicles with technology that detects sleeping children in hot cars.

Read more: https://www.msn.com/en-us/news/us/hot-cars-claim-16-childrens-lives-this-summer-as-car-safety-bill-is-introduced/ar-AADHZbP

OSHA

Cal/OSHA Indoor Heat Proposal Pushes Forward

California's Division of Occupational Safety and Health (Cal/OSHA) has revised its draft indoor heat illness prevention standard to address stakeholders' concerns. Employers would have to maintain the indoor temperature and heat index below 87 degrees Fahrenheit when workers are present under the standard.

Read more: https://ehsdailyadvisor.blr.com/2019/05/cal-osha-indoor-heat-proposal-pushes-forward/

NIOSH

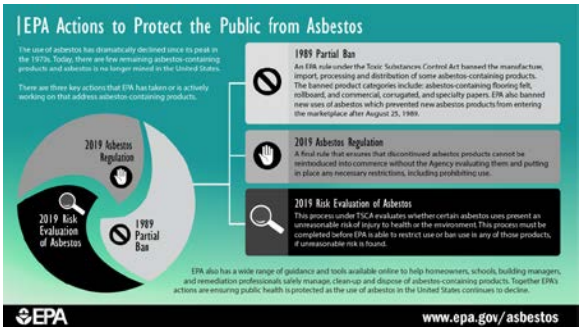
NIOSH Publishes Revised Method for Asbestos and Other Fibers by PCM

The NIOSH recently published a revised version of NIOSH Method 7400: Asbestos and Other Fibers by PCM pdf icon in the NIOSH Manual of Analytical Methods (NMAM). This updated method includes an alternative filter clearing procedure, an alternative mounting medium, a generic description of the phase-shift test slides, and guidance on the calculation of an expanded uncertainty budget.

Read more: https://www.cdc.gov/niosh/enews/enewsv17n2.html (scroll down)

EPA

States File Lawsuit against EPA over Asbestos Regulation



A coalition of attorneys general from 10 states and the District of Columbia has filed a federal lawsuit against the Environmental Protection Agency seeking increased scrutiny on asbestos products.

Read more: https://www.asbestos.com/news/2019/07/03/states-sue-epa-asbestos/

APHC

Training

2020 Training Schedule (traditional classroom events)

December 9-13, 2019 Army DOEHRS-IH Initial Course (1st Quarter)
February 20-24, 2020 Army DOEHRS-IH Initial Course (2nd Quarter)
April 20-24, 2020 Blueprint Reading & Design Review
April 27-May 1, 2020 Industrial Ventilation Course
May 4-8, 2020 Healthcare & Laboratory Ventilation Course
May 11-15, 2020 Army IH Professional Practice Course
May 18-22, 2020 Army DOEHRS-IH Initial Course (3rd Quarter)
August 17-21, 2020 Army DOEHRS-IH Initial Course (4th Quarter)

RESERVE SEATING QUOTAS NOW

Registration/Sign-up Rosters at https://aiph-dohs.ellc.learn.army.mil

CIH NOISE MATH (3hr)

Certificate with 3 easy steps:
1-Completely view 22 minute lecture.
2-Watch the Practice Problem Videos as homework calculations are worked out step by step by the instructor.
3-Complete exam 70% minimum score.

There's not really 3 hours of work in this course, but we are awarding a very generous 3 hour certificate! This gives you credit for the lesson, the videos, and the homework.

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Ventilation Hoods (4hr)

No Exam. Certificate with 3 easy steps:
1-Completely view lecture with embedded knowledge check questions.
2-Watch the Practice Problem Video as calculations are worked out step by step by the instructor.
3-Complete multiple attempt homework assignment.

There's not really 4 hours of work in this course, but we are awarding a 4 hour certificate! This gives you credit for the lesson, the video, and the homework.

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COMPETENCY VERIFICATION SELF ASSESSMENTS

- Curious about how you stand professionally?
- Not sure what specifics to target with self development?
- Looking for free exam prep questions?

No lessons, lectures, certificates, just sets of short quizzes to help bridge the gaps.

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Analytical Chemistry
Basic Science & Math
Biohazards
Health Hazards
Indoor/Outdoor Air
Noise
Sampling
Survey Equipment
Thermal Stressors
Toxicology
Industrial Work Environments

New Online material (self-enroll/self-development)

Industrial Hygiene Health Hazard Assessment Program (0.5hr)

THERE IS 1 LECTURE IN THIS COURSE (23min) THE LECURE HAS EMBEDDED KNOWLEDGE CHECKS. VIEWING ALL SLIDES AND COMPLETING THESE EMBEDDED KNOWLEDGE CHECKS IS MANDATORY. PARTICIPANTS HAVE TWO ATTEMPTS AT EACH QUESTION AND MUST COMPLETE THE LESSON ONCE STARTED.

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New Online material (self-enroll/self-development)

IH Assessment Statistics is a series of 3 lectures. The course is divided into 3 Lessons (Sampling, Describing Data, and Inferring the SEG). The lessons total 4hrs; homework is worth 1hr; total of 5hrs for the course. *There's not an exam*, however there is homework. You'll be able to leave lessons or homework and return to the same place you left if you need to exit. You'll be able attempt the homework as many times as you need to pass. Once you've *watched ALL lessons* and have at least *70% on the homework*, you'll automatically get a system generated certificate.

Not Quite ready for the full course? GREAT! 3 AWARENESS LEVEL offerings have also been added (Sampling, Describing Data, and Inferring the SEG) with *no homework, quizzes, or exam*. Once the all slides have been viewed, the system will generate a certificate.

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New Online material (self-enroll/self-development)

IH Professionalism (0.5hr) is short lecture (23min) with *no homework, quizzes, or exam*. Participants receive a certificate from viewing ALL slides and using a code word to initiate a certificate of completion.

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New Online material (self-enroll/self-development)

Introduction to Radiation (1.25hr)

This is a short lecture (66min) with *no homework, quizzes, or exam*. Participants receive a certificate from viewing ALL slides. This is both a great awareness level, refresher, or certification exam prep lecture.

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

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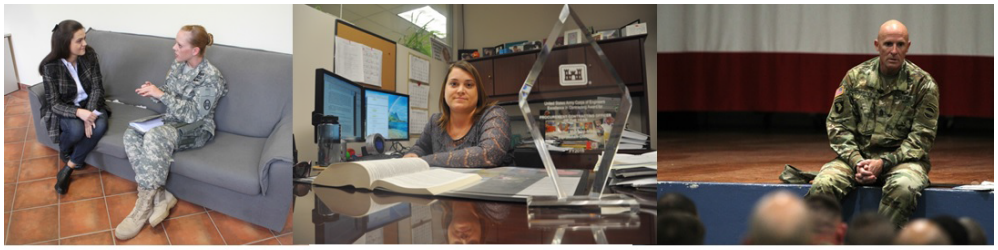

Professional Development and Career Programs

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.