Greenlist BULLETIN

Toxics Use Reduction Institute | January 17, 2017

This is the bi-weekly bulletin of the TURI Library at the University of Massachusetts Lowell. Greenlist Bulletin provides previews of recent publications and websites relevant to reducing the use of toxic chemicals by industries, businesses, communities, individuals and government. You are welcome to send a message to mary@turi.org if you would like more information on any of the articles listed here, or if this email is not displaying properly.

Alternative fire safety for upholstered furniture

Source: Phosphorus, Inorganic & Nitrogen Flame Retardants Association, December 18, 2016

A report by SP Sweden looks at options for fire safety in upholstered furniture other than use of flame retardants. The report starts by underlining that upholstered furniture does represent a fire risk because it is composed of large amounts of easily ignited and very combustible materials.

Small scale foam/covering sample tests and furniture mock-up test ... were carried out for fire ignition and fire development, using cotton, wool, polyester, PVC, leather and blend fabric covering fabrics, polyester wadding, light or dense glass-fibre or aramid-fibre barrier and polyurethane cushion foam. Results were variable.

Read more...

See report, "Fire safe upholstered furniture: Alternative strategies to the use of chemical flame retardants".

Also see from PINFA, "US CPSC tests furniture fire barriers", "PIN FRs enable Euroclass textile revalorization", and "Bavaria government information on fire toxicity".

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Current Intelligence Bulletin 68: NIOSH Chemical Carcinogen Policy

Source: CDC National Institute for Occupational Safety and Health, December 22, 2016

NIOSH published a final document entitled "Current Intelligence Bulletin 68: NIOSH Chemical Carcinogen Policy" on December 27, 2016. Underlying this policy is the recognition that there is no safe level of exposure to a carcinogen, and therefore that reduction of worker exposure to chemical carcinogens as much as possible through elimination or substitution and engineering controls is the primary way to prevent occupational cancer. Accordingly, this policy no longer uses the term recommended exposure limit (REL) for chemical carcinogens; rather NIOSH will only recommend an initial starting point for control, called the Risk Management Limit for Carcinogens (RML-CA). For each chemical identified as a carcinogen, this level corresponds to the 95% lower confidence limit of the risk estimate of one excess cancer case in 10,000 workers in a 45-year working lifetime. Keeping exposures within the risk level of 1 in 10,000 is the minimum level of protection and striving for lower levels of exposure is recommended.

Read more...

See the bulletin here.

Office of Pollution Prevention and Toxics Predictions for 2017

Source: *The National Law Review*, January 4, 2017

Author: Lynn Bergeson, Charles Auer, Kathleen Roberts, Richard Engler, and Carla Hutton

One of the big questions posed in our 2016 Predictions memo was resoundingly answered when Congress passed, by large bipartisan majorities, and President Obama signed the Frank R. Lautenberg Chemical Safety for the 21st Century Act on June 22, 2016. The past six months have been a whirlwind of activity for EPA and, given our expectation that the Trump Administration will work to implement new TSCA, 2017 promises to be busier still. The early implementation of such a complex, nuanced statute, presents difficult challenges under the best of circumstances and, there are numerous rules and actions that are required to be completed by June 2017. These and other likely actions for 2017 are summarized and briefly commented upon below. Add to this the challenges presented by a new Administration of a different party and things truly could get interesting. ...

The items listed below are, with one exception, measures required under new TSCA. Since promulgation will occur during the new Administration, the final rules are likely to differ, to a greater or lesser extent, from the proposals. It is also possible that rules could be re-proposed or the comment period re-opened to allow the Trump Administration to get its ideas into play; this, however, could cause such actions to miss their statutory deadlines.

Read more...

See from the U.S. EPA, "For the First Time in 40 Years EPA to Put in Place a Process to Evaluate Chemicals that May Pose Risk".

The Importance of EPCRA Reporting and the Dangers of Complacency

Source: *EHS Today*, January 4, 2017

Author: Missy Hart

The Emergency Planning and Community Right-to-Know Act (EPCRA) mandates that companies maintain hazardous chemical information to support state and local emergency planning and response for community awareness. EPCRA also requires reporting on the storage, use and release of hazardous chemicals to federal, state and local regulatory government agencies. In addition, facility site location maps must be kept up to date to reflect any changes in chemical storage location and types of storage, as well as providing updated reports for new hazardous chemicals above the reporting threshold to local fire departments and local and state emergency planning commissions.

Even with EPCRA having been the law of the land for 30 years, however, compliance experts regularly see many organizations that believe they are in compliance when they actually have lax policies and inadequate recordkeeping.

The reality is that failure to comply can have catastrophic results.

In April 2013, the West Fertilizer Co. (WFC) storage and distribution facility in West, Texas was destroyed as the result of an ammonium nitrate explosion, killing 15 (including 12 first responders) and injuring more than 160 others.

The WFC Final Report, issued January 2016, noted multiple violations of EPCRA, as well as violations of OSHA and EPA regulations such as including lack of fire detection systems and the improper reporting of the ammonium nitrate that caused the blast. These violations ultimately caused amplified physical damage to the facility and surrounding area, and also inhibited containment efforts following the initial disaster.

Read more...

See the U.S. Chemical Safety and Hazard Investigation Board's Final Investigation Report, "West Fertilizer Company Fire and Explosion".

Also see from the U.S. EPA, "EPA Amends its Risk Management Program for Chemical Facilities".

Oil- and gas-processing plants may have to report toxic releases

Source: *The Durango Herald*, January 10, 2017
Author: Jonathan Romeo

Natural gas-processing plants would have to start publicly reporting toxic chemicals they release into the environment under proposed regulations the Environmental Protection Agency announced last week.

"The oil and gas industry releases an enormous amount of toxic pollutants every year, and communities deserve to know what they're facing," Adam From, senior attorney for Environmental Integrity Project, said in a prepared statement. ...

While other industries -- such as metal and coal mining, manufacturing and hazardous waste treatment -- are subject to report more than 650 chemicals to the EPA, oil and gas facilities for more than 30 years have been exempt.

In January 2015, the environmental and open government groups filed a lawsuit against the EPA, demanding the agency respond to the 2012 petition, which it did in October 2015.

An EPA official wrote in an emailed response there were 517 natural gas-processing plants in the lower 48 states as of 2012, and more than half would be subject to reporting

at least one of more than 20 different toxic chemicals, which can include xylenes, formaldehyde and benzene.

Read more...

Also see from the U.S. EPA, "Addition of Natural Gas Processing Facilities to the Toxics Release Inventory Proposed Rule".

Chemical Substances When Manufactured or Processed as Nanoscale Materials; TSCA Reporting and Recordkeeping Requirements

Source: U.S. Federal Register, January 12, 2017

EPA is establishing reporting and recordkeeping requirements for certain chemical substances when they are manufactured or processed at the nanoscale as described in this rule. Specifically, EPA is requiring persons that manufacture (defined by statute to include import) or process, or intend to manufacture or process these chemical substances to electronically report to EPA certain information, which includes insofar as known to or reasonably ascertainable by the person making the report, the specific chemical identity, production volume, methods of manufacture and processing, exposure and release information, and existing information concerning environmental and health effects. This rule involves one-time reporting for existing discrete forms of certain nanoscale materials, and a standing one-time reporting requirement for new discrete forms of certain nanoscale materials before those new forms are manufactured or processed.

This final rule is effective May 12, 2017.

Read more...

See the U.S. EPA fact sheet, "Nanoscale Materials".

Also see from *The National Law Review*, "EPA Promulgates Final TSCA Reporting and Recordkeeping Rule for Nanoscale Materials".

EPA Analysis Shows Decreased Toxic Chemical Releases in Massachusetts in 2015

Source: U.S. Environmental Protection Agency, January 12, 2017

BOSTON -- EPA's most recent Toxic Release Inventory (TRI) data is now available for the reporting year of 2015. In Massachusetts, the reporting data show that overall releases of pollutants to the environment decreased since the previous reporting year (2014). Further, the analysis shows a decrease of nearly 56 percent for reported chemical releases in Massachusetts from 2005 to 2015.

During 2015, the latest year for which data are available, approximately 15.1 million pounds of chemicals were released in the six New England states, a reduction of about 1.3 million pounds (decreased by 8.3 percent) from 2014 (the previous reporting year). During this period, total air emissions in New England were reduced by 9.4 percent.

Between 2005 and 2015, New England facilities reduced their total on- & off-site disposals and other releases by 50.1 percent. During this span of 10 years, New England facilities reduced their air emissions by 70.9 percent -- exceeding the national air trend of a 50 percent reduction.

In Massachusetts, 404 facilities reported in 2015 approximately 3.4 million pounds (a

decrease of 180,144 pounds, or 5 percent). Since 2005, reporting facilities in Massachusetts have reduced their releases from 7.6 million pounds to 3.4 million pounds (55 percent reduction).

Read more...

Also see from the U.S. EPA, "EPA Report Shows Air Emissions of Toxic Chemicals from Industrial Facilities Down More Than Half Since 2005" and from *Environmental Leader*, "Industrial Facilities' Toxic Chemical Releases Dropped 8% in 2015".

OSHA Issues Final Beryllium Rule

Source: *PaintSquare*, January 11, 2017

Federal regulators have finalized a new rule limiting workplace exposure to beryllium, a metal that is present in some blasting abrasives and has been linked to lung disease.

The U.S. Department of Labor's Occupational Safety and Health Administration announced its final rule Friday (Jan. 6), publishing the regulation in the Federal Register. The rule comprises three separate standards, for general industry, shipyards and construction. The construction and shipyard rules apply when materials contain greater than 0.1 percent beryllium by weight.

The new rule reduces the eight-hour permissible exposure limit (PEL) for airborne beryllium from 2.0 micrograms per cubic meter to 0.2 micrograms per cubic meter, a limit that applies to all industries. If beryllium exposure is greater than the PEL, employers must take extra steps, including providing engineering controls, medical exams or medical surveillance.

Read more...

See page from the Federal Register on this final rule.

Also see an OSHA Fact Sheet, "Protecting Workers' from Exposure to Beryllium and Beryllium Compounds: Final Rule Overview", and this fact sheet from the Canadian Centre for Occupational Health and Safety (CCOHS), "Beryllium - Health Effects".

EPA wants to restrict sometimes-deadly paint stripper chemical

Source: The Center for Public Integrity, January 12, 2017

Author: Jamie Smith Hopkins

The U.S. Environmental Protection Agency wants to largely ban the use of a chemical in paint strippers that has killed dozens of people, asphyxiating some and triggering heart attacks in others.

The agency announced the proposed rule today, a move that followed pleas from public-health officials to do something about methylene chloride, the chemical in many of the paint removers on home improvement store shelves. Until last year, the cans didn't include warnings about the risk of death from use in enclosed spaces, which is where people have typically died amid its fumes -- in bathrooms, basements, tanks and even a squash court.

A 2015 Center for Public Integrity investigation uncovered more than 50 accidental exposure deaths linked to the chemical since 1980 in the U.S. -- a likely undercount, given its ability to bring on a heart attack -- and showed that federal agencies had opportunities to act decades ago but did not. Deaths blamed on methylene chloride have been documented since at least the 1940s, and in 1976 two academics wrote a piece in

which they detailed a consumer death and criticized the lack of federal action.

Read more...

See detailed information on the accidental exposure deaths in the 2015 Center for Public Integrity investigation, "Common solvent keeps killing workers, consumers".

Also see the U.S. EPA web page on Methylene Chloride and an article in *PaintSquare*, "EPA Takes Aim at Chemicals in Paint Remover".

TURI's Note: See our fact sheet on Methylene Chloride.

EPA proposes second rule to ban more uses of toxic TCE

Source: Environmental Defense Fund, January 12, 2017
Authors: Jennifer McPartland

The Environmental Protection Agency (EPA) took another significant step yesterday to protect against exposures to the highly toxic chemical, trichloroethylene (TCE), proposing a rule to ban its use as a vapor degreaser.

The proposed rule is the second issued under section 6 of the Toxic Substances Control Act (TSCA) as amended by last year's Lautenberg Act. It follows on EPA's proposed rule last month to ban the use of TCE as an aerosol degreaser and spot cleaning agent in dry cleaning facilities. Both proposed rules on TCE are critical to protecting consumer and worker health from the harmful effects of TCE and should move swiftly toward finalization.

TCE is a volatile organic compound, produced in huge volumes (255 million pounds in the US). It is highly toxic, with identified health effects ranging from skin and eye irritation and dizziness to cardiac malformations in the developing fetus and cancer. TCE is fat-soluble, easily crosses biological membranes, and has been detected in breast milk and maternal and fetal blood.

In vapor degreasing TCE is boiled in a degreasing unit, creating a hot vapor that upon contact with fabricated parts, condenses and absorbs and carries contaminants away. Vapor degreasing is conducted in many settings, such as electronics assembly and repair shops. EPA's 2014 risk assessment of TCE found that current levels of exposure to the chemical from its use as a vapor degreaser pose unacceptably high levels of risk to workers and occupational bystanders.

The proposed ban on TCE's use as a vapor degreaser would eliminate those risks and provide for healthier workplaces.

Read more...

See Federal Register notice from the U.S. EPA, "Trichloroethylene (TCE); Regulation of Use in Vapor Degreasing under TSCA §6(a)".

Also see the U.S. EPA web page for Trichloroethylene (TCE).

TURI's Note: See resources from TURI on our TCE web page.

Comparative Analysis between Ecotoxicity of Nitrogen-, Phosphorus-, and Potassium-Based Fertilizers and Their Active Ingredients

Source: *Toxics*, December 27, 2016

Authors: Nathan de Castro Soares Simplicio, et al.

Abstract: This study aimed to analyze the ecotoxicity of nitrogen-, phosphorus-, and potassium-based compounds to organisms of two different trophic levels in order to compare the toxic effect between high-purity substances and these substances as components of fertilizers. Dilutions were made with the fertilizers' potassium chloride, potassium nitrate, superphosphate, urea, and their equivalent reagents, to conduct assays to establish the acute lethal concentration for half of the population (LC_{50}). Ten individuals of the benthic snail *Biomphalaria glabrata* and the fish *Danio rerio* were exposed to each concentration of tested compounds. As a result, the toxicity levels of potassium chloride, potassium nitrate, and urea were obtained for *B. glabrata* and *D. rerio*, with the fish being more susceptible to potassium chloride in the fertilizer and the snail to potassium nitrate and urea, in both commercial and reagent forms. Regarding superphosphate, no significant toxicity was found. This study concluded that among the tested substances, KNO_3 and KCl were the most toxic substances and urea the least toxic. It was not possible to establish the most sensitive species since, for KCl, the fish were more susceptible to the fertilizer and the snail to the reagent, while for KNO_3 the opposite was observed.

Read more...

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