Greenlist Bulletin

From the Toxics Use Reduction Institute at the University of Massachusetts Lowell

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This is the 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.

HAZMAP Database & Website Updated - May 2012

Source: U.S. National Library of Medicine

Haz-Map® is an occupational health database designed for health and safety professionals and for consumers seeking information about the adverse effects of workplace exposures to chemical and biological agents. The main links in Haz-Map are between chemicals and occupational diseases. These links have been established using current scientific evidence.

Haz-Map shows the diseases linked to each agent and the agents linked to each disease. Agents are chemical such as formaldehyde, or biological such as grain dust. Haz-Map links jobs and hazardous job tasks with occupational diseases and their symptoms.

In Haz-Map, chronic occupational diseases are linked to both jobs and industries, while acute diseases and infectious diseases are linked only to jobs. Cancers are not linked to jobs, industries or findings.

The information in Haz-Map comes from textbooks, journal articles, the *Documentation of the Threshold Limit Values* (published by ACGIH), and electronic databases such as NLM's Hazardous Substances Data Bank (HSDB®). Haz-Map staff classifies, summarizes, and regularly updates the information found in the database.

Access the updated database here.

A new spin on antifreeze

Source: Harvard University, June 11, 2012

Researchers create ultra slippery anti-ice and anti-frost surfaces

Cambridge, Mass. - June 11, 2012 - A team of researchers from Harvard University has invented a way to keep any metal surface free of ice and frost. The treated surfaces quickly shed even tiny, incipient condensation droplets or frost simply through gravity. The technology prevents ice sheets from developing on surfaces--and any ice that does form slides off effortlessly.

The discovery, published online as a just-accepted manuscript in *ACS Nano* on June 10, has direct implications for a wide variety of metal surfaces such as those used in refrigeration systems, wind turbines, aircraft, marine vessels, and the construction industry.

The group, led by Joanna Aizenberg, Amy Smith Berylson Professor of Materials Science at the Harvard School of Engineering and Applied Sciences (SEAS) and a Core Faculty Member at the Wyss Institute for Biologically Inspired Engineering at Harvard, previously introduced the idea that it was possible to create a surface that completely prevented ice with ice-repellent coatings, inspired by the water-repellent lotus leaf. Yet this technique can fail under high humidity as the surface textures become coated with condensation and frost.

"The lack of any practical way to eliminate the intrinsic defects and inhomogeneities that contribute to liquid condensation, pinning, freezing, and strong adhesion, have raised the question of whether any solid surface (irrespective of its topography or treatment) can ever be truly ice-preventive, especially at high-humidity, frost-forming conditions," Aizenberg said.
To combat this problem, the researchers recently invented a radically different technology that is suited for both high humidity and extreme pressure, called SLIPS (Slippery Liquid Infused Porous Surfaces). SLIPS are designed to expose a defect-free, molecularly flat liquid interface, immobilized by a hidden nanostructured solid. On these ultra-smooth slippery surfaces fluids and solids alike--including water drops, condensation, frost, and even solid ice--can slide off easily.

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Nanoparticles in polluted air, smoke & nanotechnology products have serious impact on health

Source: Trinity College Dublin, June 11, 2012

Trinity College Dublin scientists establish link between autoimmune diseases such as rheumatoid arthritis and nanoparticles

Dublin, June 11th, 2012 − New groundbreaking research by scientists at Trinity College Dublin has found that exposure to nanoparticles can have a serious impact on health, linking it to rheumatoid arthritis and the development of other serious autoimmune diseases. The findings that have been recently published in the international journal '*Nanomedicine*' have health and safety implications for the manufacture, use and ultimate disposal of nanotechnology products and materials. They also identified new cellular targets for the development of potential drug therapies in combating the development of autoimmune diseases.

Environmental pollution including carbon particles emitted by car exhaust, smoking and long term inhalation of dust of various origins have been recognized as risk factors causing chronic inflammation of the lungs. The link between smoking and autoimmune diseases such as rheumatoid arthritis has also been established. This new research now raises serious concerns in relation to similar risks caused by nanotechnology products which if not handled appropriately may contribute to the generation of new types of airborne pollutants causing risks to global health.

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Sustainability helps advance molded fiber packaging

Source: Greener Package, June 5, 2012
Author: Del Williams

Philips Consumer Lifestyle is one company that's using the newspaper/water material to improve sustainability, branding, and economics.

As trendsetters such as Walmart have shown, working with suppliers to create sustainable packaging is vital for retailers and manufacturers looking to reduce input, transport, storage, and disposal costs, as well as promote their concern for the environment to consumers. The issue of disposal difficulties with many nonrenewable materials has only served to heighten interest in this field and accelerate adoption of sustainable packaging.

According to a 2011 DuPont global survey of consumer packaged goods companies and packaging converters, sustainability is the top challenge facing global packaging. Of the almost 500 packaging professionals surveyed, 39% cited sustainability as the number one issue, followed by 33% noting cost. Of the survey respondents working on sustainable packaging, 65% said their focus was on design for recyclability or use of recycled content.

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Flame retardant linked to obesity, anxiety, developmental problems, pilot study finds

Source: Chicago Tribune, June 6, 2012
Author: Michael Hawthorne

WINNIPEG, Manitoba -- Small doses of a flame retardant commonly added to furniture and baby products can trigger obesity, anxiety and developmental problems, according to the first independent study of a chemical promoted as safe by industry and government officials.

Baby rats whose mothers ate tiny amounts of the chemical, known as Firemaster 550, gained significantly more weight than others that weren't exposed, according to a presentation Tuesday at a scientific conference here. The chemical made the female offspring more anxious, prompted early puberty and caused abnormal reproductive cycles.

"This raises red flags about a widely used chemical that we know little about," said study co-author Heather Stapleton, a Duke University chemist. "What we do know is, it's common in house dust and that people, especially kids, are being exposed to it."

Read more...

Please send a message to mary@turi.org if you would like more information on any of these resources. Also, please tell us what topics you are particularly interested in monitoring, and who else should see *Greenlist*. An online search of the TURI Library catalog can be done at http://library.turi.org for greater topic coverage.

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