

Customized Newsletter for Quantum Copper

Branded Newsletter Sample Fire Retardant Newsletter Oct. 30 - Nov. 5

Top Stories

Studies/Surveys

New study raises questions about heavy metals in fire retardants (LAist)

Over the past decade, about 67 million gallons of fire retardant have been dropped on wildfires across California, according to the U.S. Forest Service. If you've ever wondered what's in the bright red goop that's used to protect homes and hillsides, a new study out of USC offers clues beyond what the manufacturers show on their official material data sheets.

USC study links heavy metal contamination to wildfire fire retardants (Fire & Safety Journal Americas)

A recent study conducted by the University of Southern California highlights the presence of heavy metals in fire retardants used in wildfire management, as reported by LA IST.

Investor Relations

Compass Minerals Leaders Sued Over Fire Retardants, Salt Mining (Bloomberg Law)

Compass Minerals International Inc. products to combat fire and ice are at the center of a pair of investor lawsuits against the multi-industry mineral provider's directors and executives, alleging they breached their fiduciary duties and committed other corporate malfeasance.

Vendor/ Supplier Related

Wildfire suppressants dumped nearly a million pounds of toxic metals into the West U.S. (WILDFIRE TODAY)

Companies supplying the USFS with wildfire suppressants may have been hiding various heavy metals present in their formula, according to an ongoing study. Materials used in suppressants, including fire retardants, water enhancers, and foams, all have to be approved by the U.S. Forest Service

Research & Development

Toxic Metals Found in Wildfire Suppressants (USC Viterbi School of Engineering)

A team of researchers from the USC Viterbi School of Engineering's Sonny Astani Department of Civil and Environmental Engineering have tested several wildfire suppressants, estimating in a paper in Environmental Science and Technology Letters, that these materials have released approximately 850,000 pounds of toxic metals into the environment in the Western United States from 2009-2021.

Journal

Studies/Surveys

Fire alarm nano-coating with the controlled release of phosphorus-containing free radical for considerable flame retardant performance (Colloids and Surfaces A: Physicochemical and Engineering Aspects)

The colloidal properties and surface charge characteristics of graphene oxide (GO) often lead to flocculation during the layer-by-layer (LBL) assembly. Innovatively, the charged flame retardant molecule, amino-tris(methylene phosphonic acid) (ATMP), is encapsulated within the inner cavity of halloysite nanotubes (HNTs).

The preparation of ammonium polyphosphate@nickel/cobalt-layered double hydroxide and its application as flame retardant in thermoplastic polyurethane (Polymer Degradation and Stability)

Inspired by the significant synergistic effect of transition metals and ammonium polyphosphate (APP) on flame retardancy, a nickel/cobalt-layered double hydroxide derived from a selected zeolitic imidazolate framework-67 (APP@NiCo) was constructed onto the surface of APP to enhance the fire safety of thermoplastic polyurethane (TPU).

Impacts of different organophosphorus flame retardants on the transformation of phosphorus forms and microbial metabolic pathways in anaerobic reactors (Journal of Water Process Engineering)

Organophosphorus flame retardants are widely distributed in aquatic environment and wastewater treatment plants. However, their effect on biological wastewater treatment processes is not clear. The study was conducted to explore the impact of different types of organophosphorus flame retardants on the transformation of phosphorus forms

Research on flammability of 3,3,3-trifluoropropene and its binary mixtures with flame retardants

(Process Safety and Environmental Protection)

3,3,3-trifluoropropene (R1243zf), which has good environmental and cycling characteristics, is a very promising fourth generation new working fluid. However, it is flammable, so studying its combustion characteristics and how to suppress its flammability are of great significance.

Preparation of phosphorus-containing organic-hybrid layered double hydroxide as a flame retardant for thermoplastic polyurethane (Applied Clay Science)

Developing polymers with both flame-retardant and smoke-suppressing properties is a great challenge in the field of fire-safety thermoplastic polyurethane (TPU). This study involved synthesizing a synergistic organic-hybrid

layered double hydroxide (O-LDH) and phosphorus/nitrogen-containing substance (PD) inspired by the observed synergistic effect between them.

Modification with lignin-based N-P flame retardant to improve the flame retardancy and smoke suppression of wood (Chemical Engineering Journal)

The development of effective and eco-friendly wood-based functional composites is crucial for maximizing the value of forest resources. In this paper, we propose a novel method for preparing an aqueous-phase flame retardant (MPUC) using carboxymethylation alkali lignin, phytic acid, and melamine-urea-glyoxal resin

Tannic acid coated ammonium polyphosphate: For flame retardant and UV resistant of polypropylene (Polymer Degradation and Stability)

Polypropylene (PP) has the advantages of excellent mechanical properties and easy molding, but its shortcomings such as high flammability and poor ultraviolet (UV) resistance cannot be ignored. In this paper, APP was used as the core, 1, 10-diamino-decane (DA) was used as a "bridge" to connect TA to the surface of APP

A synthesized P/N/S oligomer flame retardant to construct superior flame-retardant, transparent, and mechanical properties epoxy resin (Materials Today Chemistry)

The construction of epoxy resin (EP) composites with remarkable flame retardancy, transparency, and mechanical properties was a challenging subject in the industry. A novel P/N/S oligomer flame retardant (PALO) was synthesized of terephthalaldehyde (TPAL), 4-aminothiophenol (PATP), and 9, 10-dihydro-9-oxa-10-phosphaphenanthrene 10-oxide (DOPO),

Flame retardant based on metal catalyzed instantaneous crosslinking to form carbon for improving the safety performance of aircraft epoxy resin (Safety Science)

With the continuous occurrence of aircraft fire accidents, fire-retardant composites have received strong attention as they are considered to require excellent fire safety properties. To develop domestically fire safety technology for aircraft epoxy resin (EP), this work synthesized a metal-catalyzed transient cross-linking carbon-forming flame retardant (TcZrA).

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Construction of biomass-based flame-retardant, antimicrobial and hydrophobic wood coatings with POSS organic-inorganic nanoparticles (European Polymer Journal)

The present study utilizes chitosan (CS) and phytic acid (PA) as natural polyelectrolytes, while incorporating Polyhedral Oligomeric Silsesquioxane (POSS), an organic inorganic hybrid Si-O-Si cage structure, to create a flame retardant, antimicrobial, and hydrophobic coating for wood materials using the layer-by-layer self-assembly method.

Preparation of a bifunctional precursor with antibacterial and flame retardant properties and its application to cotton fabrics (Progress in Organic Coatings)

Cotton fabric is a cellulose-based material with complex capillary spaces, which enhance breathability and softness. However, these capillary spaces can promote bacterial growth with moisture during storage and daily use. Additionally, cotton fibers are highly flammable, posing a fire hazard to wearer.

Synthesis of novel reactive flame retardant to improve fire resistance and mechanical properties in epoxy resin (Polymer Degradation and Stability)

A novel reactive flame-retardant (FR), phosphorus-modified tetraethylenepentamine (TEPA-m-MVP), was prepared via aza-Michael addition process, using dimethyl vinylphosphonate (MVP). TEPA-m-MVP was successfully covalently introduced into the structure of the epoxy system, into the epoxy resin matrix synthesised from tetraethylenepentamine (TEPA)

Multiphase hydrogen bonding strategies room temperature self-healing, recyclable polyurethane elastomers for applications in flame retardant materials (Materials Today Communications)

Novel elastomers offer new opportunities to develop multifunctional materials in terms of combining mechanical strength, room-temperature self-healing properties and recyclability. However, self-healing polymers have high mechanical strength at high internal cross-linking density

Expanded charring flame retardant effect of caged polysilsesquioxane containing Schiff base structure on poly(ethylene terephthalate) combustion (Polymer Degradation and Stability)

Via a hydrolytic condensation reaction, we successfully synthesized polyhedral oligomeric silsesquioxane containing Schiff base structures (NSPOSS). These were then incorporated into the PET matrix through melt blending, aiming to bolster the flame retardancy of poly(ethylene terephthalate) (PET).

News Stories

Studies/Surveys

WA, OR ballot drop box makers, officials explore changes after fires (The Seattle Times)

PUYALLUP Just four days before the election, the sounds of hammering and welding reverberated through the 27,000-square-foot Puyallup facility where drop boxes found throughout the U.S. including many found bolted down in Multnomah and Clark counties are born.

Study links toxic metal spread to wildfire suppressants (E&E News)

Researchers detected high levels of heavy metals in fire suppressants, suggesting an explanation for why concentrations of the toxic elements in the environment spike after wildfires. The dust clouds of long-term fire retardants released by planes to combat wildfires contain concentrations of heavy metals up to 2,880 times

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Malibu Retrofit at \$300,000 Shows Limits of Wildfire-Prepping (BNN Bloomberg)

Evelin Weber and her neighbors fled their Malibu homes as the deadly Woolsey Fire tore across the California coast in 2018. Ever since, haunted by fears of another blaze, she's spent \$300,000 on fireproofing her house.

PEI-Genesis offering LMR connectors, cables, and accessories (newelectronics)

PEI-Genesis offering LMR connectors, cables, and accessories PEI-Genesis, a designer and assembler of custom engineered interconnect solutions, is expanding its RF interconnect product portfolio through its partnership with Times Microwave Systems, an Amphenol company.

Midlands Fire Services Are Warning About Halloween Costumes (MIDLANDS 103)

Halloween should be about making positive memories not bad ones. That's the advice from Senior Assistant Chief Fire Officer for Westmeath Pat Hunt, who is advising parents to check if their child's costume is fire retardant and that they wear illuminated costumes if they are trick or treating in dimly lit areas.

Part of Highway 101 shut down as firefighters battle blaze in Santa Barbara County (The Tribune)

Firefighters were battling a vegetation fire burning near Highway 101 in the Gaviota area on Thursday afternoon. Crews were dispatched shortly after 2 p.m. to the fire just north of the northbound highway rest stop and south of the tunnel.

PEACE RIVER FOREST AREA / WILDFIRE SITUATION (Government of Alberta)

There are currently three fires classified as UNDER CONTROL in the Peace River Forest Area. Since January 1, there have been 110 wildfires in the Peace River Forest Area, which have burned approximately 15,912 hectares.

Fire Safety Tips from Olympia: Preventing Tragedy This Halloween (KPQ NEWS RADIO)

With Halloween nearly upon us, the State Fire Marshal's Office is urging Washingtonians to tread carefully. We hate to sound like whimpering killjoys, but facts are facts: Halloween is invariably fraught with fire hazards.

Do not use this if you have any of these kitchen utensils or baby toys in this black color, get rid of them immediately they contain very toxic elements (union rayo)

Be careful if you have any of these kitchen products at home because they may contain toxic flame retardants that may have leached from other products (mostly electronics) during recycling. We are talking about the black plastic products that are commonly used for kitchen utensils, meat and produce trays, takeout containers and even children's toys

USCG: Chafing on fuel hoses can cause catastrophic fires (SAFETY4SEA)

A recent fire onboard an inspected towing vessel has highlighted a critical safety concern involving fuel hoses on main engines. While it is standard marine practice to install protective chafing gear on areas prone to wear, there are currently no statutory requirements for inspected towing vessels to install such protections on fuel lines.

IOM Bangladesh Rohingya Humanitarian Crisis Response - Situation Update (July - September 2024) (ReliefWeb)

The refugee camps in Cox's Bazar, sheltering almost a million Rohingyas, face extreme vulnerability to natural disasters like monsoons, cyclones, floods, landslides and fires during dry seasons. With Bangladesh increasingly impacted by climate change, the risk to these congested camps rises, as shelters are prone to fires during the dry season and damage from severe weather. Located in a protected forest, the camps rely on temporary bamboo and tarpaulin shelters, which are not fire-retardant and require frequent repairs.

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Fire retardant risks (LAist)

Why it matters: Heavy metals can accumulate in the environment and negatively affect wildlife. It's unclear exactly why the metals are included in the retardants tested, but they could be used as corrosion inhibitors.

Government/Regulatory

Western Australia deploys aerial firefighting fleet to protect grain harvest during fire-prone season (International Fire & Safety Journal)

The Government of Western Australia has activated its Grain Harvest Aerial Fleet early in response to the heightened fire risk during the state's peak grain harvesting season. The fleet, managed by the Department of Fire and Emergency Services (DFES), includes two aerial strike teams strategically

Halloween safety tips from State Fire Marshal's Office (My Edmonds News)

As Halloween approaches, the Washington State Fire Marshal's Office reminds everyone to prioritize safety while enjoying the festivities. The National Fire Protection Association reports that the leading cause of fires during the holidays are because of decorations, causing 790 home structure fires per year.

Technical issues

Brush fire in Texas prompts evacuation orders (KYMA)

A brush fire dubbed the Hudson Fire prompted evacuations in Bastrop County, Texas, on Sunday, November 3. Footage filmed by the Texas A&M Forest Service shows the fire burning on Saturday, and aerial teams dropping fire retardant over the burning area.

Suspect behind ballot box fires in Oregon, Washington may strike again, police say (CBS17.COM)

Authorities believe the man suspected of setting fires in ballot boxes in Portland, Oregon, and Vancouver, Washington, this month could be planning more attacks. The Portland Police Bureau (PPB) released additional details about the suspect, who remains at large, during a press conference on Wednesday.

Some wildfire suppressants may be unleashing heavy metals into the environment: Study (The Hills Times)

The widespread use of certain chemical or synthetic fire suppressants may be leading to heavy metal contamination in wildfire-prone areas, a new study has found. Wildland firefighters often supplement the use of water with suppressant products such as fire retardants, water enhancers and foams

Massive brush fire spreads in San Diego, causing evacuations (MSN)

A rapidly growing bush fire has erupted in San Diego, sparking mass evacuations and damaging homes. The fire was first reported shortly before 2pm Thursday in the College Area neighborhood, and the fast pace of its growth spread to over 40 acres by 3:45pm local time.

Firefighters keep raging wildfire out of the City of Pawhuska (Pawhuska Journal-Capital)

Firefighters and emergency management personnel remained engaged Wednesday morning, Oct. 30 in a struggle against a wildfire that threatened the City of Pawhuska the afternoon before. Jerry Roberts, director of Osage County Emergency Management, said Wednesday morning

New Products/Services

ACL Cables champions new fire-retardant cable standard SLS 733 for home safety (Daily FT)

ACL Cables PLC, the pioneer in fire-retardant PVC cable technology in Sri Lanka, has announced its association with the new fire-retardant cable standard SLS 733 initiative as the promoter which has vigorously and unceasingly campaigned for the formulation of higher standards for home safety.

Environment/ Climate

Promoting post-fire recovery of western Joshua tree habitat (National Park Service)

The human-caused Geology fire started on June 10, 2023, along the Berdoo Canyon Road, one of Joshua Tree National Park's designated backcountry routes. The park's fire management plan calls for immediate suppression of wildfire in western Joshua tree (*Yucca brevifolia*) habitat to protect a resource greatly threatened by climate change.

Opinion/Feature/Trends

Studies/Surveys

New Study: Why You Should Toss Black Takeout Containers Stat! (MSN)

If you wanted to, you could easily identify types of food from their takeout container. Clear plastic clamshell That's a salad waiting to be shaken. Flat, square box You know there's a pizza in there. White wax paper secured with a rubber band Get ready to dig into a sub. Black container with a plastic top That screams sushi or Chinese food.

What we know about Osage County wildfire, damage (KJRH-TV)

As of afternoon hours of Oct. 30, Ferrell Road on the southwest side of Pawhuska remained intact as the eastern front of crews battling the North Road Wildfire. Despite not being under a county burn ban, lifelong Pawhuska resident Ron Cody told 2 News he knew he could be in danger when winds picked up Tuesday afternoon when the

wildfire began.

Why you should get rid of your black plastic spatula immediately (Fast Company)

If you have a black spatula in your kitchen, or other black plastic items around your house like takeout containers or children's toys, they could contain high levels of toxic flame retardants. Those chemicals which have been linked to cancer, neurological damage, and hormone disruption may be a result of recycling contamination

Environment/ Climate

Throw Out Your Black Plastic Spatula (The Atlantic)

For the past several years, I've been telling my friends what I'm going to tell you: Throw out your black plastic spatula. In a world of plastic consumer goods, avoiding the material entirely requires the fervor of a religious conversion.

Video

Studies/Surveys

3D Systems Fire Retardant Materials - Arneses Electricos UL94 V-0 (youtube)

3D Systems Fire Retardant Materials - Arneses Electricos UL94 V-0

155x115x90mm Explosion-proof Fire Retardant Portable Safety Storage Bag Carry Bag for Lipo Review (youtube)

155x115x90mm Explosion-proof Fire Retardant Portable Safety Storage Bag Carry Bag for Lipo Review

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800kg/hr Twin Screw Extruder For PC/ABS Alloy Fire Retardant Masterbatch Production (youtube)

This compounding line is designed for our customer who manufactures PC/ABS flame retardant masterbatch applied in automotive industry. Adopting twin screw extruder, it enables the flame retardant well dispersed in the basic resin.

240*180*64mm Multifunctional Fire Retardant Explosion-proof Bag Battery Safety Bag for Lipo Review (youtube)

240*180*64mm Multifunctional Fire Retardant Explosion-proof Bag Battery Safety Bag for Lipo Review

Plane Drops Retardant on Central Oklahoma Wildfire (MSN)

Several wildfires broke out in central Oklahoma on Tuesday, October 29, forcing evacuation orders for parts of the region, the National Weather Service (NWS) said. According to the weather service, fires were burning southwest of Wellston, east of Cushing, southeast of Yale, east of Seiling, east of Warren, and south of Anadarko as of Tuesday evening.

Social Media

Studies/Surveys

juliannefrenchfry's post (Instagram)

Head to toe in fire retardant clothing every time I visit a job site - which happens to be way too big for me because safety clothing is predominately sized for men. This button tick works pretty well though

[netting.com.au's post](#) (Instagram)

Economical and FIRE RETARDANT Raw Bird Netting Bales for all Pesky Pigeon problems

[Japan Flame Retardant PA6 Market Analysis 2024: Trends, Growth Drivers, and Regional Insights](#)

(LinkedIn)

This report provides comprehensive insights into the Japan Flame Retardant PA6 Market, covering various aspects including market segmentation, key companies, and growth factors. With a focus on stakeholders, vendors, and industry participants, the report highlights trends and forecasts for 2024 through 2032.

Job Postings

Human Resources/ Employees Related

[Fire Retardant Training Manager](#) (LinkedIn)

Are you experienced at delivering training to personnel within the construction industry and looking for a varied role within the manufacturing sector. This is a new position offering an exciting product range to varied industries.

Research Paper

Studies/Surveys

[Global occurrence and environmental behavior of novel brominated flame retardants in soils: Current knowledge and future perspectives](#) (ScienceDirect)

Since polybrominated diphenyl ethers (PBDEs) are on the list of regulated chemicals, novel brominated flame retardants (NBFRs) have been produced as alternatives and extensively used since the end of the 19th century.

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Snippet

Studies/Surveys

[Flame Retardant Apparel Market Is Booming So Rapidly | Bulwark, Carhartt, Dickies](#) (openPR)

Patent

Intellectual Property

[Koppers Performance Chemicals Files Patent Application on Method for Manufacturing an Aqueous Fire Retardant Composition, an Aqueous Fire Retardant Composition, a Method for Treating a Wood Substrate Therewith, and a Wood Product Produced Therefrom](#) (US Patent News)

Alexandria, Nov. 5 -- U.S. Patent and Trademark Office has filed patent application in U.S. Patent and Trademark Office on method for manufacturing an aqueous fire retardant composition, an aqueous fire retardant composition, a method for treating a wood substrate therewith, and a wood product produced therefrom. Li Bin, Zhang Jun and Herdman Douglas developed the invention.

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