



In the effort to preserve and maintain the fragile ecology of our planet, these recently selected abstracts are represented to help readers of Journals of Materials Engineering and Performance stay current on legislation and compliance with global environment issues and regulations. They are reprinted from Metals Abstracts and Materials Business File with permission from Materials Information, a joint service of ASM International, Materials Park, Ohio, and the Institute of Materials, London, England.

OSHA Cites Bayou on Safety Violations. The U.S. Occupational Safety and Health Administration has cited Bayou Steel Corp. for numerous alleged health and safety violations at its LaPlace, Louisiana, plant. The citations, if upheld, would result in fines totaling \$160,500, according to both the steelmaker and the United Steelworkers union. A company statement noted that Bayou Steel planned to contest some of the items cited by OSHA. But the statement also said that Bayou Steel had "immediately begun the process of rectifying all potential hazards identified by OSHA." K.J. Selland. Cited: *Am. Met. Mark.*, Vol 103 (No. 71), 13 April 1995, p 3 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199505-S4-0031.

[U.S.] EPA Unveils Its Blueprint for Great Lakes Cleanup. The U.S. Environmental Protection Agency has issued its long-awaited "guidance" governing industrial pollution in an eight-state region under the so-called Great Lakes Initiative. The plan, unveiled in mid-March (1995), calls for states to develop water quality standards based on wide-ranging EPA criteria that are aimed at restoring the Great Lakes ecosystem. A steel industry source reserved judgment until the hundreds of pages of guidance could be studied. Throughout EPA's long process of formulating this plan, steelmakers urged the agency not to require that water leaving a plant be cleaner than water entering a plant.

B. Schmitt. Cited: *Am. Met. Mark.*, Vol 103 (No. 54), 21 March 1995, p 4 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199505-S4-0027.

Polymer Makers Cheer [U.S.] EPA Cuts. A new U.S. Environmental Protection Agency final rule published 29 March 1995 eliminates and narrows several of the categorical exclusions for manufacture of polymers under the 1976 Toxic Substances Control Act (TOSCA), officials of the Society of the Plastics Industry Inc. said. Most notably, the rule frees from "premanufacturing notification" many categories of polymers, thereby cutting the time for putting many new polymers on the market. The previous regulation required extensive notification paperwork for polymers having many types of reactive groups. The new rule becomes effective 30 May.

R. King. Cited: *Plast. News (Detroit)*, Vol 7 (No. 5), 3 April 1995, p 3 [in English]. ISSN: 1042-802X. PHOTOCOPY ORDER NUMBER: 199505-P4-0038.

[U.S.] EPA Issues Final Rules Limiting Emissions from Epoxy-Resin Operations. The U.S. Environmental Protection Agency (EPA; Washington, D.C., USA) has issued final standards that limit emissions of hazardous pollutants from existing and new major facilities for epoxy resin and non-nylon polyamides production. These rules will affect companies that make liquid epoxy resin, which is often used to produce a cured resin with desired properties for adhesives, coatings and other plastic applications. They will also affect makers of non-nylon polyamide resin that use epichlorohydrin in their manufacturing processes. EPA says the rules will reduce emissions of hazardous air-pollutants, mainly epichlorohydrin, by approximately 105 million tons/year.

Cited: *Chem. Eng. (NY)*, Vol 102 (No. 4), April 1995, p 27 [in English]. ISSN: 0009-2460. PHOTOCOPY ORDER NUMBER: 199505-P4-0036.

Environmental Rules Don't Harm Competitiveness or Profitability. An analysis of thousands of U.S. industrial facilities shows that environmental regulations have little impact on companies' competitiveness or profitability. With a new database generated by the U.S. Census Bureau's Center for Economic Studies, World Resources Institute senior economist

Robert Repetto has shown that plants with poor environmental records are no more profitable than cleaner plants in the same industry. Repetto says his study also refutes myths that U.S. environmental regulations harm a company's international competitiveness and that they cause unemployment.

Cited: *Chem. Eng. News*, Vol 73 (No. 12), 20 March 1995, p 17 [in English]. ISSN: 0009-2347. PHOTOCOPY ORDER NUMBER: 199505-P4-0035.

Germany and U.K. Lobby to Halt "Over-Regulation". A group of business leaders from Germany and the United Kingdom, including BASF chairman Jurgen Strube and Laporte Organics' managing director of operations David Campbell, have called on the Commission to scrap the Directive on Dangerous Substances, revise the Drinking Water Directive, and amend current proposals for Integrated Pollution Prevention and Control (IPPC). The group, set up by the two governments in April 1994, has included the measures as part of a package to cut the effects of over-regulation. Its U.K. chairman, Francis Maude, described over-regulation as a "dangerous and growing threat" to the competitiveness of business in the EU and claimed regulations are driving businesses out every week.

Cited: *Eur. Chem. News*, Vol 63 (No. 1660), 27 March-2 April 1995, p 21 [in English]. ISSN: 0014-2875. PHOTOCOPY ORDER NUMBER: 199505-P4-0028.

Lead Industry Pushes New Hazard Program. The Pb industry, trying to head off a move toward internationally coordinated regulation, is proposing a program to help countries reduce Pb risks. The proposal for an International Lead Management Initiative comes as the Organization for Economic Cooperation and Development (OECD) is considering guidelines to combat Pb hazards in its 25 member countries. Over the next few months, the OECD's environmental committee will be weighing two alternatives. One is a plan listing specific commitments that countries would make to control Pb exposure. The other is a plan that contains a promise of risk-reduction assistance from the international Pb industry.

B. Schmitt. Cited: *Am. Met. Mark.*, Vol 103 (No. 66), 6 April 1995, p 3 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199505-G4-0055.

[U.S.] EPA Proposes Treatment for Certain Metal Wastes. The U.S. Environmental Protection Agency, in a long-awaited move, proposed in the 2 March 1995 Federal Register a package of treatment standards for certain hazardous materials that are destined for waste disposal on land. This land disposal restriction package, which is now subject to a public comment period and is expected to be finalized early in 1996, proposes treatment standards for spent aluminum potliners. Paul D. Webb, manager of Reynolds Metals Co.'s Gum Springs, Arkansas, plant, cares about the rule because the converted smelter he manages is now a spent potliner treatment facility. It uses a Reynolds process that may be the only commercially available means for meeting EPA's requirements now in the United States.

B. Schmitt. Cited: *Am. Met. Mark.*, Vol 103 (No. 59), 28 March 1995, p 6 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199505-G4-0047.

[U.S.] Federal Regulations Highlights. OSHA has extended the comment period on its proposed respiratory protection standards until 14 April 1995 (CFR Part 1910). Public hearings will begin 6 June. The proposal would require employers to implement a written respiratory protection program covering the selection, maintenance, fit testing and training methods for workers who use the equipment. EPA is amending its

regulations for the testing and monitoring of hazardous waste (40CFR Part 260). This amendment adds new and revised methods to the third edition of the EPA-approved test methods manual, "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods." Cited: *Am. Ceram. Soc. Bull.*, Vol 74 (No. 4), April 1995, p 14 [in English]. ISSN: 0002-7812. PHOTOCOPY ORDER NUMBER: 199505-C4-0008.

Responding to Refractory Health, Safety Concerns. Refractory materials are receiving a great deal of attention from the world regulatory community as governments attempt to reduce real and perceived health risks. Two refractory materials are receiving significant attention: silica and refractory ceramic fibers. At the same time industry is working with the regulatory agencies, it must work with its employees and customers to train them in the proper use of potentially hazardous materials. A strong product stewardship program is a proactive response in dealing with potential health hazards.

R.A. Waugh. Cited: *Ceram. Ind.*, Vol 144 (No. 4), April 1995, p 53-57 [in English]. ISSN: 0009-0220. PHOTOCOPY ORDER NUMBER: 199505-C4-0007.

China Cleans Up Its Act. China passed its first environmental protection law at the end of 1989; however, the attitudes of local governments toward enforcing environmental protection can vary, with rural and inland provinces being more tolerant of pollution emissions. The Ministry of Metallurgical Industry and China National Non-Ferrous Metals Corp are responsible for implementing these laws as they relate to the metallurgical industry, and most of the hazards in this area are now under proper control. Problems remaining relate to the limited coverage of the laws and the increase in small, sometimes primitive, mines. Common problems affecting all plants are the huge amount of capital required to improve the polluted environment and the technical inability to control major pollutants such as sulfur dioxide. Future aims are outlined.

C. Wu. Cited: *Met. Bull. Mon.*, Vol 290, Feb 1995, p 64-65, 67 [in English]. ISSN: 0373-4064. PHOTOCOPY ORDER NUMBER: 199504-S4-0025.

[U.S.] Producers Face Changing Water-Quality Rules. Starting in the 1980s, under a mandate from the U.S. Environmental Protection Agency, National Sanitation Foundation (NSF) International, a testing firm in Ann Arbor, Michigan, developed a wide-ranging nationwide "health effects standard" for the materials and products that compose delivery infrastructures for drinking water. NSF completed the final piece of that standard, dubbed NSF-61 in 1994, and it continues to test products to determine how they measure up. The results could spell either trouble or opportunity for specific materials. Seeing a market opportunity, the Nickel Development Institute is helping to sponsor NSF's generic testing of products containing stainless steel.

B. Schmitt. Cited: *Am. Met. Mark.*, 103 (No. 51, Suppl. Steel Pipe & Tube), 16 March 1995, p 9A [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199504-S4-0024.

Scrap Execs Face Dumping Violations. A former president of the German Steel Recycling Association is at the center of an environmental scandal involving the alleged illegal dumping of 50,000 metric tons of shredder residues. Helmut Trapp and his son, Michael, are alleged to have dumped shredder waste generated by their scrap company, Eumet-Recycling GmbH & Co., in abandoned sand quarries, on building sites, and at household waste sites in Germany and abroad. Sources estimated that the alleged illegal dumping of the environmentally damaging material would have saved the company from disposal costs totaling millions of deutsche-marks.

S. Penson. Cited: *Am. Met. Mark.*, Vol 103 (No. 38), 27 Feb 1995, p 7 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199504-S4-0021.

A Practical Approach to Compliance with the HON MACT [USA]. Operators throughout the chemical process industries (CPI) are bracing for the HON Rule (the Hazardous Organics National Emissions Standards), as promulgated by the U.S. Clean Air Act Amendments of 1990. Determining whether or not the HON Rule applies to a given facility is not a simple matter, nor is compliance expected to come cheaply. This article attempts to help manufacturers in the CPI to determine if the regulation applies to their facilities, and to assess what controls are required. Also discussed is Maximum Achievable Control Technology

(MACT). The MACT standards are based on the maximum level of control that has been achieved in practice within the industry today.

M.M. Hultman. Cited: *Chem. Eng. (NY)*, Vol 102 (No. 3), March 1995, p 90-98 [in English]. ISSN: 0009-2460. PHOTOCOPY ORDER NUMBER: 199504-P4-0024. PHOTOCOPY ORDER NUMBER: 199504-P4-0023.

New Payback for Environmental Commitment. In April 1995, a new European Union regulation will allow companies to earn public recognition for efforts to improve their environmental performance. Under the Eco Management and Auditing Scheme (Emas), firms can have their individual plants' management systems and environmental reports verified by external auditors, as they do for ISO (International Standards Organization, Geneva) 9000 quality certification. Those who make the grade will be free to display an Emas logo, expected to become a prestigious mark of environmental excellence. Pointing to the public relations boost that companies will get by participating, legislators who drafted Emas expect to see widespread participation in the voluntary program.

Cited: *Chem. Eng. (NY)*, Vol 102 (No. 3), March 1995, p 49 [in English]. ISSN: 0009-2460.

Tougher Rules Squeeze Australian Producers. Australia's legislation concerning pollution control is as strict if not stricter than that in most European and North American countries, and Australian metals companies are finding it hard to meet requirements. Examples are discussed and include the Southern Copper smelter in Port Kembla, which had to close in January, and BHP, which is spending A\$44 million/year at its Port Kembla steelworks to meet stricter environmental standards. MIM and Pasminco are bearing the brunt of anger from the "green" movement; MIM is attacked for releasing excess sulfur dioxide into the air from its Mt. Isa smelter and Pasminco is criticized despite its having a license to dump Jarosite from its Risdon Zinc Smelter into deep water off Tasmania. Another threat overhanging the industry is the possible introduction of a carbon tax designed to reduce emission of greenhouse gases.

J. Vanos. Cited: *Met. Bull. Mon.*, Vol 290, Feb 1995, p 68-69 [in English]. ISSN: 0373-4064. PHOTOCOPY ORDER NUMBER: 199504-G4-0046.

[U.S.] EPA Prepares to Deliver a One-Two Punch to Lead. The U.S. Environmental Protection Agency issued its Advanced Notice of Proposed Rulemaking on Significant New Uses of Lead (Snur) in Sept 1994, and in May 1994 it issued its Secondary Lead Smelter Toxic Emissions Proposal. The two proposals were then passed on to the U.S. Pb industry for reaction and comment. Under Snur, the EPA would require companies to notify it at least 90 days before manufacturing, importing, or processing Pb and Pb compounds for uses identified by the agency as "significant" and "new."

S. Fineberg. Cited: *Am. Met. Mark.*, Vol 103 (No. 52), 17 March 1995, p 6 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199504-G4-0042.

Environmentalists Push for Broader Metals Ban. Environmentalists are pushing to include more recyclable metals under the rules of the Basel Convention and not just the hazardous metallic wastes already prohibited, scrap industry members have been told. Delegates from the countries that have ratified the Basel Convention (and thus agreed to incorporate its prohibitions in their trade regulations) decided in 1994 to ban shipments of hazardous waste for recycling from developed countries to developing countries beginning in Jan 1998. But now, according to a pair of scrap traders, the ban could be extended to include other recoverable metals.

Cited: *Am. Met. Mark.*, Vol 103 (No. 34), 20 Feb 1995, p 7 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199504-G4-0037.

Managing Nickel and Its Compounds under CEPA. A health and environmental assessment of Ni and its compounds was carried out in Canada recently, and oxidic, sulfidic and soluble inorganic Ni compounds were found to be "toxic" as defined in Section 11 of the Canadian Environmental Protection Act (CEPA). Subsequently, two related government initiatives have been identified: Canada's Toxic Substance Management Policy; and Steel Manufacturing Strategic Option Process. Three industrial sectors have been identified as significant emitters of Ni and its compounds to the environment in Canada: base metal smelting, electric power generation, and steel manufacturing.

Cited: *Communique*, Vol 16, Feb 1995, p 2 [in English]. ISSN: 1181-7208. PHOTOCOPY ORDER NUMBER: 199504-G4-0035.

Fish and Forest Crowd Miners. The amount of U.S. federal land where metal mining isn't entirely welcome grew more than five-fold in the

past 30 years, according to a new report from the General Accounting Office (GAO). Between 1964-1993, federal lands managed by the Forest Service, the Bureau of Land Management (BLM), the Fish and Wildlife Service and the National Park Service, where uses were limited by conservation restrictions, increased to 271 million acres from approximately 51 million acres. The GAO report, "Federal Lands: Information on Land Owned and on Acreage with Conservation Restrictions," said that in fiscal 1964 approximately 7% of the lands managed by the agencies had conservation restrictions, either legislative or administrative. By fiscal 1993, approximately 44% had such restrictions.

B. Schmitt. Cited: *Am. Met. Mark.*, Vol 103 (No. 51), 16 March 1995, p 6 [in English]. ISSN: 0002-9998. PHOTOCOPY ORDER NUMBER: 199504-G4-0034.

DoE Launches U.K. Waste Management Strategy. Comments are being sought on the U.K. Dept. of Environment (DoE) draft strategy on waste for England and Wales by 28 April 1995. The strategy sets out targets and action points for the next 10 years and a number of waste streams, including scrap metals, are identified for action. One objective is to increase the level of aluminum can and foil recycling. Waste batteries, including lead-acid batteries, get special treatment under the plan.

Cited: *Met. Bull.*, Vol 7953, 9 Feb 1995, p 10 [in English]. ISSN: 0026-0533. PHOTOCOPY ORDER NUMBER: 199504-G1-0178.

Photocopies of complete articles are available from the MI Document Delivery Service at ASM; please call 216/338-5151, ext. 450 for order and price information.

Furthermore...

A high-speed recyclable copper stripper has been introduced by **Phibro-Tech, Inc.** A two-part cyanide-free and chromium-free formulation, Alk-Cu-Strip HI-SPEED will not etch steel substrates and is designed for large volume applications where short cycle time is required. The product can replace cyanide- and nitric acid-based strippers, is safer than acid, and strips copper four times faster than cyanide- or chrome-based systems. Waste material can be returned to Phibro-Tech in the original drum for recycling and for reclaiming ammonia and copper. Phibro-Tech also has a new brochure describing their specialty etchants and strippers, performance chemicals, and recycling and waste recovery services. For further information, contact Phibro-Tech, Inc., One Parker Plaza, Fort Lee, NJ 07024; tel: 800/777-1850; fax: 201/944-7916.

CORTEC Corporation has developed a **chromate-replacement additive**, CORTEC VCI-373, which can be used to provide enhanced corrosion resistance and improved coating adhesion for metals (including steel, aluminum, and stainless steel) during plating or painting. The formulation's improved bonding capability does not depend on chromates, other heavy metals, or solvents, and instead uses specially reacted biodegradable compounds. Because the additive is a fast drying water-based product, it also eliminates explosion and fire hazards associated with solvent-based materials. For further information, contact Christophe Chandler, CORTEC Corporation, 4119 White Bear Parkway, St. Paul, MN 55110; tel: 800/426-7832; fax: 612/429-1122.

A strong market for all-aluminum used beverage cans sent the recycling rate up to 65.4% in 1994, a significant increase from the previous year. Americans returned a record 64.7 billion aluminum cans of the 99 billion shipped; a total of 2.15 billion pounds. In 1993, the recycling rate was 63.1%. Every aluminum beverage can has an average of 54.1% post-consumer recycled content, an

Environmental Rules Shape Applications. The rare earth industry has gone through major changes in the last 15 years or so. With environmental regulations becoming increasingly stringent, rare earths have come into their own in a variety of applications. However, economic pressures have created severe challenges at the operating level. Companies, such as Molycorp operating U.S.'s Mountain Pass operation, are feeling the impact on the mining and production of these materials.

B.T. Kilbourn. Cited: *Met. Bull. Mon.*, Vol 289, Jan 1995, p 59-60 [in English]. ISSN: 0373-4064. PHOTOCOPY ORDER NUMBER: 199504-G1-0157.

[U.S.] Clean Air Act Update: EPA Policy on Major Source Classification. On 25 Jan 1995, the U.S. Environmental Protection Agency released a new policy memorandum that may help sources avoid classification as major sources even though their potential to emit exceeds the statutory threshold. The memorandum describes a new two-year transition policy that may assist some sources in avoiding the Title V operating permit process and/or future maximum available control technology (MACT) standards for hazardous air pollutants (HAPs) under Section 112 of the Clean Air Act.

K. Berry. Cited: *Ceram. Ind.*, Vol 144 (No. 3), March 1995, p 31 [in English]. ISSN: 0009-0220. PHOTOCOPY ORDER NUMBER: 199504-C4-0006.

increase over 1993's average of 51.6%. Aluminum cans are recycled in a closed-loop process, saving 95% of the energy needed to produce aluminum from ore. For further information, contact the **Aluminum Association**, 900 19th St. NW, Washington DC 20006; tel: 202/862-5100; fax: 202/862-5164.

Intromark, Inc. has introduced **GUZUNDA, an EPA-approved support for barrels containing hazardous chemicals, recyclable oil or other types of fluids.** GUZUNDA safely supports barrels weighing up to 750 lbs at a height of at least 1.5 in. above the floor, protecting them from moisture and the resultant corrosion and hazardous leaks. For further information, contact Intromark, Inc., 217 Ninth Street, Pittsburgh, PA 15222; tel: 800/851-6030.

The Fifth International Conference on Radioactive Waste Management and Environmental Remediation, jointly sponsored by the **Nuclear and Environmental Engineering Divisions of the American Society of Mechanical Engineers**, is scheduled for September 3-9, 1995 in Berlin, Germany. For further information, contact Leslie Friedman, tel: 212/705-7788; fax: 212/705-7856.

Stirring Up Innovation, Environmental Improvements in Paints and Adhesives, by John S. Young, Linda Ambrose, and Lois Lobo, details seven case studies of product improvements by leading companies, including design for: reduced content of toxic or hazardous chemicals, reduced release of materials damaging to the environment, and easier reuse and recycling. To order, contact **INFORM, Inc.**, 120 Wall Street, NY, NY 10065-4001; tel: 212/361-2400; fax: 212/361-2412.

Industrial Paramedical Services, Inc. has introduced a video: **SOUND EFFECTS, Everything You Always Wanted to Know**

About Hearing Conservation, But Were Afraid to Ask, a 12-minute video about noise and its effects on hearing. The video covers all aspects of hearing conservation as required by the OSHA Noise Standard and the recent changes in the Personal Protective Equipment. For further information, contact Industrial Paramedical Services, Inc., 23300 Providence Drive, Suite 115, Southfield, MI 48076; tel: 810/557-1241 or 800/231-1006; fax: 810/557-2795.

Hoechst Celanese Corporation has introduced a ***pilot program for transporting resin that offers collapsible, reusable plastic containers*** designed to reduce waste and disposal costs, increase warehouse storage capacity, and eliminate product loss due to pellet leakage. These plastic containers, made of recyclable high-density polyethylene, are used to transport engineering resins from supplier to customer. For further information, contact Hoechst Celanese Information Center, 114 Mayfield Ave., Edison, NJ 08837; tel: 800/235-2637.

The Tri-Wall Hazardous Waste Container, introduced by **Tri-Wall**, meets ***UN recommendations for the construction of bulk containers used in the transport of hazardous wastes*** up to and including corrosive solids, Poison B solids, and flammable solids. It is also ideal for hazardous materials in the ORM classification, and nonhazardous solid wastes. For further information, contact Greg Fair, Tri-Wall, at 800/927-7225.

OSHA had developed the Top Two hundred Pilot Targeting Program in the state of Maine to address the large number of employee injuries and accidents in that state. Two hundred firms employing 30% of the state's workforce have been targeted as initial participants. The program is anticipated to be established in the remaining states. In response, the **Topf Organization** has developed a ***program, Optimizing Employee Safeguards, that helps employers prevent injuries and environmental incidents***. The program

is being used by participants in the Pilot Targeting Program. For further information, contact Michael Topf, the Topf Organization, Rosemont Plaza, 1062 Lancaster Avenue, Suite 1, Rosemont, PA 19010; tel: 610/525-8370.

Several ***thermal processes have been developed for the remediation of contaminated soil containing hydrocarbons, tar and benzene derivatives, ammonia, sulfur, and heavy metals***. **THERMOCON**, developed by **LBE Beheizungseinrichtungen GmbH**, uses fossil fuel and the vapors to heat the soil. The other process is a continuous process that can process 10 tonnes of contaminated soil per hour. For further information, contact Dr. Iris Bertozzi, **LOI GROUP**, Moltkeplatz 1-45138 Essen, Germany; tel: 201/1891-277; fax: 201/1891-211.

A two-chamber melting furnace has been developed by **Schmitz + Apelt LOI**, for the ***recycling of aluminum scrap contaminated by oil, paint, grease or plastic***. The furnace allows environmentally compatible partial combustion of the contaminants followed by incineration of the combustion products. The heating value of the organic contaminants can even be used in the melting furnace. For further information, contact Dr. Iris Bertozzi, **LOI GROUP**, Moltkeplatz 1-45138 Essen, Germany; tel: 201/1891-277; fax: 201/1891-211.

Clark Boardman Callaghan and the Environmental Law Institute has released a CD-ROM environmental law research tool based on the print version of ELR-The Environmental Law Reporter. This ***CD-ROM service will provide up-to-date coverage of the Code of Federal Regulations, as well as applicable state regulations, and will be updated monthly***. For further information, contact Clark Boardman Callaghan, 375 Hudson Street, New York, NY 10014, tel: 800/854-3926.
