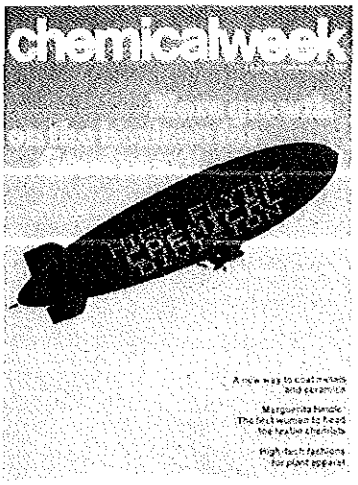



companies 26

**Goodyear's high-flying Chemical Div.**
While its parent company spent much of 1986 fighting a costly battle to block a hostile takeover attempt, Goodyear Tire & Rubber's Chemical Div. enjoyed an "all-time record-breaker year," says General Manager J. David Wolf. Last year's return on investment was "more than double" the industry average, according to Wolf, and the division's polyester plastic-container business was so successful that it was reorganized into a separate division. As the Chemical Div. expands and diversifies to serve new and faster-growing markets, its managers' spirits—like the parent company's well-known blimps—are soaring.

**cover:** Goodyear Tire & Rubber Co.

## comment


**other views 3**
**Environmental law: More than compliance**


## other features


**weekly price index 8**
**monthly stock report 14**
**key changes 20**
**quarterly chemical output report 30**





# chemicalweek

**April 8, 1987**—Vol. 140, No. 13


## top of the news


6 **GAF makes a $3.19 billion offer for Borg-Warner**
But analysts say the bid seems to "leave the door open for a sweetener"

7 **Gasoline faces new pressures**
Refiners will probably have to upgrade hardware to cut vapor pressure

8 **BP—inevitably—makes a formal offer**
Buying Standard Oil could simplify management operations in the U. S.

8 **An innovative way to cut NOx**
Argonne National Lab scientists are testing a chemical that feeds on $SO_2$

10 **EPA sets PCB cleanup rules**
Nationwide standards may facilitate handling industrial leaks and spills

11 **A data-collecting system by EPA meets discord**
The agency's CAIR program calls for extensive reporting on 47 chemicals

12 ***Doscher makes an upbeat departure***
Charles Doscher, CEO of Enichem International, retires

12 **wrap-up:** Harry Corless of ICI Americas will receive the Palladium Medal. Carbide's Overseas Finance Corp. redeems notes. A refinery pact


## departments


19 **people**
**A balloonist is the dyers' first woman president**
"Rita" Hindle intends to keep the accent on AATCC's technical strengths

31 **research**
**A new route to coating metals and ceramics**
MIT's process works on both conductive and nonconductive substrates

34 **engineering**
**EPA eyes guidelines for trash-to-energy plants**
National standards could quell local squabbling and speed up permitting

35 **production**
**Looking for a standard to clothe chemical users**
Finding the right type of protective clothing to shield a worker isn't easy


## newsletters


5 **business:** Cain Chemical—a big new entry in petrochemicals. An impediment to the NL spinoff. Betz buys a chemicals-for-coal business

16 **international:** Mexican petrochemical exports drop sharply. PET demand in Japan rises. Import problems hit Yugoslavia's chemical industry

25 **markets:** Huntsman will boost PS capacity. A rosy outlook for styrene may prove elusive. National Distillers will expand its PE capacity

33 **technology:** DOE wants "out" of uranium enrichment. Who owns biotech products made from donor cells? Companies join to commercialize TPA

42 **washington:** At least one AIDS problem is settled. The high court defers to "expertise" in a patent suit. Liability coverage: Still hard to get

additive can be recycled in the process.

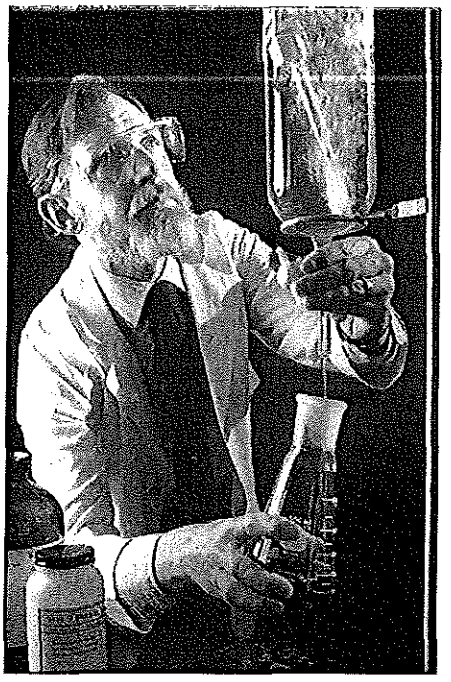
For John Grasser, spokesman for the National Coal Assn., the Argonne discovery merely underscores the view that "there are obviously more efficient and economical ways to remove pollutants from combustion than forcing the country to submit to a draconian emissions control program that attempts to do the same thing." Referring to pending legislation like Senator George Mitchell's (D., Me.) proposal to bring down $SO_2$ emissions by 12 million tons before 1996, Grasser says, "Our position is that there is no acid rain emergency. We've got time to develop alternative ways of reckoning with it. The Argonne research is one of those."

Ironically, if ferrous HMTA lives up to its promise in the real world of coal-burning power plants, its success may lead to further regulatory action, says Harkness, partly because its cost is "very minor, about a half million dollars per plant." He says that is about one-eighth the cost of the system DOE uses as a baseline for comparing costs of NOx cleanup methods. Harkness estimates that "our system would raise the cost of electricity from a typical plant by only 1-2%, compared with 8-15% for the standard method," a process that involves spraying ammonia into flue gases and passing the mixture through a catalyst.

**No cheap control.** "If EPA came down from on high with a regulation for controlling nitrogen oxides, everyone would be forced to use the DOE reference technology, because it's the only one available," Harkness says. "And that's very expensive technology. In part, there is not a regulation now because there's no cheap way to control nitrogen oxide emissions. To that extent, our discovery might create the right conditions for regulation."

Before that happens, Argonne's new additive will have to prove its merit in pilot tests, a process likely to take up to three years, according to Harkness. For example, it's still open to question whether the additive is truly recyclable. "That's one thing we simply cannot test in the laboratory," he says. Ideally, the Argonne process would be run in plants that employ wet scrubbers for $SO_2$ removal. And despite the fact that HMTA has actually enhanced $SO_2$ removal on a laboratory scale, it remains to be demonstrated on a larger scale that the HMTA process would not interfere with the ability of the wet scrubbers to remove 90% of the $SO_2$.

"Ferrous chelated compounds form a new compound with the nitrogen oxide," Harkness explains. "The nitrogen oxide, once it has formed that compound, is no longer effectively in solution; it's a different species. The nitrogen oxide then apparently reacts with bisulfite ions, which you obtain by scrubbing sulfur dioxide. So, there is a synergism between the two pollutants, and you form a new set of compounds that are the materials that would finally be removed from the scrubber and disposed of." A method for disposal of the solid waste product also will be part of the pilot test programs.



**Argonne's Harkness** prepares ferrous HMTA.

Right now, two pilot test proposals are being considered, Harkness observes. Indianapolis Power & Light has submitted one, and Dravo Lime (Pittsburgh), a supplier of magnesium-activated lime and scrubbing cleansers to power plants, wants to assess ferrous HMTA's compatibility with its chemistry.

**'Too early.'** Of course, not everyone is eager to embrace the Argonne process yet. "It's too early for us to say conclusively whether we're interested or not," says Jennifer Kelley Dowdell, a spokeswoman for Commonwealth Edison (Chicago), which has nearly a dozen coal-burning plants in Illinois. "Utilities have traditionally used technologies that are fairly standard and fairly tried," she observes. And Dowdell points to a lot of "ifs": If Argonne's chemical is really cost-effective and does reduce 70% of nitrogen oxide emissions; if it's useful in industrial application; and if there's acid rain legislation passed that makes current NOx emissions unacceptable to the federal or state governments, the process "will make that legislation easier for us to meet."

Currently, Dowdell says, Commonwealth Edison is "doing nothing to reduce nitrogen oxide emissions" at its plants. With President Reagan's pledge to recommend $2.5 billion for acid rain research and several bills on the issue being lined up in Congress, it may not be too long before NOx emissions can no longer be ignored. And should Argonne's new additive pass its pilot tests, it may also prove to be a catalyst for both new regulatory legislation and cleaner-burning power plants. □

*JIM BISHOP in Chicago*

# EPA sets PCB cleanup rules

It took several years, but the U.S. Environmental Protection Agency (EPA), assisted by a diverse group that included representatives of the Natural Resources Defense Council (NRDC) and the Chemical Manufacturers Assn. (CMA), has completed a new set of cleanup standards for spills of polychlorinated biphenyls (PCBs). The new U.S. rules will affect cleanups of spills from the estimated 2.8 million large capacitors that contain PCBs, 121,000 PCB-laden transformers and 20 million mineral oil transformers contaminated with PCBs and currently in use. About 3% of those transformers leak, spilling about 264,000 lb/year of PCBs.

The new policy, which will apply to PCB spills or leaks that are at concentrations of 50 parts per million (ppm) or greater, will provide uniform, predictable cleanup requirements for the majority of spill situations, says John A. Moore, EPA's assistant administrator for pesticides and toxic substances. And, he says, it "will reduce the risks posed by such spills and encourage rapid and effective cleanup."

**Criteria.** EPA bases its new rules on three major factors: the agency's evaluation of the potential routes of exposure, the risks associated with the more common types of PCB spills and the costs associated with cleanup after spills. Accordingly, the most stringent cleanup standards will apply to residen-

tial and commercial areas that, in EPA's estimation, pose the greatest potential for human exposure. The strictest standard will apply in cases of indoor residential contamination. There, surfaces must be cleaned to 10 micrograms/100 sq cm, as measured by standard commercial wipe tests.

In situations that involve contamination of outdoor residential or commercial areas where human exposure risks are deemed high, PCBs must be reduced to 10 ppm by weight. Topsoil must be removed to a minimum depth of 10 in. and replaced with a cap of clean soil. In industrial facilities and remote rural areas, a cap may not be required if contamination is reduced to 25 ppm and public access is restricted.

If EPA finds that despite good faith efforts by a responsible party those decontamination levels have not been achieved, the agency may require additional cleanup actions. For example, says Moore, EPA may require a more stringent cleanup if the proximity of PCBs to groundwater or a shallow well poses a high potential for groundwater contamination. However, in such situations, unless there is evidence of gross negligence or a willful violation by the responsible party, EPA will not impose fines or take other enforcement actions, if initial cleanup was accomplished in accordance with the policy.

**Regional differences.** The national policy excludes certain types of spills and leaves their cleanup to the discretion of the EPA regions. For instance, spills into surface water, drinking water, sewers, grazing lands and vegetable gardens will continue to be cleaned up by regional office standards.

The policy also does not supersede cleanup standards or requirements for the reporting of spills under the Superfund law, the Clean Water Act or the Resource Conservation and Recovery Act. When more than one federal requirement is applicable, the law providing the stricter standard will apply.

EPA recognizes that the practical costs to industry of the new policy will not be small. The agency estimates that a one-half-acre site contaminated with PCBs will cost about $105,000 to clean to 50 ppm; $214,000, to 25 ppm; and $279,000, to background levels.

Nonetheless, say industry representatives who were in the consensus group, the new rules are a welcome change. The policy will make it "easier to know exactly what to do to clean up leaks or spills of PCBs," says John Craddock, director of product and environmental safety for Monsanto, who represented CMA during the talks. Instead of having a "long drawn-out harangue or media event about a spill," Craddock adds, "we can get on with the cleanup."

**Consistency.** Another advantage of the policy is that it will establish uniformity of enforcement at the EPA regional level, notes Jacqueline Warren, an NRDC attorney, who was part of the consensus group. Until now, she explains, PCB cleanup standards were set at the EPA regional level, which resulted in a disparity of cleanup efforts. Some regions, she says, required stringent cleanups to background levels, while other regions were *"laissez faire"* about them.

Craddock hopes that the policy also will prevent a repetition of incidents like the dumping of PCBs by Texas Eastern Gas Pipeline (Houston) in pits near pipeline compressor stations (*CW, Mar. 25, p. 11*). In that situation, Craddock says, "no one knew what the regulations were so no one knew what to do." □

*CONRAD MacKERRON in Washington, with Laurie A. Rich*

## An EPA data-collecting system meets discord

The Environmental Protection Agency (EPA) has been testing the waters for a uniform system of collecting a lot of chemical data needed by several federal agencies. In its latest effort, the agency is proposing extensive reporting and record keeping for 47 chemicals, including benzene, chlorine and ammonia, that are listed as toxic substances. The proposed program, called Comprehensive Assessment Information Rule (CAIR), would cover both U. S.-made and imported chemicals, as well as information on mixtures and on chemical processing. But producers now say that they want changes in any such program before it is implemented.

Last week, for example, Geraldine V. Cox, vice-president and technical director of the Chemical Manufacturers Assn. (CMA), endorsed the idea of "efficient governmentwide" collection and management of data. But she also said that CAIR lacks the essential components "to make such a system work."

EPA's proposal—along with the list of 47 chemicals—was circulated last October; the full version appeared in the Oct. 7 *Federal Register*. It calls for a single form covering 10 main topics, including identification of the chemical and information on processing. Some chemicals on the list have been picked to help one agency or another to fill in "data gaps." For example, 4,4'-methylenebis[2-chloroaniline] is listed because the National Institute for Occupational Safety and Health wants data on workers that may have been exposed to it as preparation for an epidemiological study. And four isomers of toluene diisocyanate, used in making urethanes, are listed because EPA's Office of Toxic Substances is planning to conduct risk assessments of them.

**Reduce costs?** EPA's rationale for pushing the CAIR proposal is that its current case-by-case method of gathering and keeping data is "lengthy and costly." The agency believes that having a standardized reporting form will, among other things, help reduce companies' costs in reporting and record keeping. EPA figures that filling out the form would take the average company about 51 hours, and compliance would cost the industry about $3 million.

CMA and Cox, however, fault EPA's cost-benefit analysis on several counts. CMA believes, for one thing, that EPA's analysis leaves out at least 11 "significant cost elements." Among them: the time needed to learn how to comply, and the costs of analyzing and using the data provided by the reports.

Cox says that EPA has not proved that it needs all the information on the forms for the 47 chemicals. In fact, she says that the program would waste time and money collecting more data than can be used. And even if EPA gets all the data requested by the forms, she adds, it has not set up a way for all affected government agencies to share and manage that data.

Instead, CMA would prefer an alternative reporting system, using three tiers of reports. Model reporting would be used for the first two tiers. Detailed reporting would be done under "chemical-specific requirements."

EPA clearly prefers the approach of a "model rule," noting that the CAIR program is modeled on the Preliminary Assessment and Information Rule (PAIR) program. But EPA's Office of Toxic Substances recently told the General Accounting Office that the data collected under PAIR was "severely limited." Originally intended to gather production and exposure data on 2,226 chemicals with a view toward ranking them for risk, that number was whittled down to 250 chemicals after the public review process. So the data could not be used for ranking as planned. □

*JOSEPH F. DUNPHY, with Conrad MacKerron in Washington*