

Pollution control attracts chemical firms

Increasing number of major chemical firms are offering chemicals, equipment, or technology for cleaning up air and water

No doubt about it, big money will be invested in the coming decade to control pollution of the environment. No doubt, either, that the chemical industry will play a key role in the battle to save our surroundings.

Many companies have already climbed on the bandwagon. Among those now in the market place with chemicals, equipment, or technology for pollution control are Allied Chemical, Allis-Chalmers, Dow Chemical, Du Pont, W. R. Grace, Monsanto, Nalco Chemical, Rhodia, Union Carbide, and Universal Oil Products.

Allied is one of the most recent entrants into the environment business. Its newly formed environmental services department will both coordinate company in-house pollution abatement efforts and explore business ventures in this area. The department, headed by Edward W. Callahan, is not an operating division of Allied, however. All product and business opportunities will be channeled through the division of Allied that seems appropriate, Mr. Callahan emphasizes.

The founding of Dow Engineering, Inc., marks the entry of Dow into incineration of wastes (C&EN, Feb. 16,

page 13). Initially the new subsidiary will design and manage incinerator systems for liquid and solid wastes.

Efforts of Du Pont in environmental technology are not focused through any one department—rather, the company has projects in commission in several departments. Both the Du Pont automobile emission control device and reverse osmosis water purifier system have come out of the organic chemicals department. The textile fibers department is occupied with, among other things, fibers for air and water filters.

Du Pont sees no conflict in the development of mechanical devices by a company traditionally known as chemical. Auto exhaust research is a contribution to the general well-being of the auto industry, which is also a good Du Pont customer, says the Wilmington firm. Du Pont would like to demonstrate that its device can stave off threats of auto pollution, without requiring a search for alternatives to tetraethyllead in gasoline.

Chemicals. Grace's contribution to pollution abatement is water treatment chemicals. Grace's Dearborn division makes and sells coagulant aids to settle solids out of industrial waste waters, and oil emulsion breakers. The Dearborn division offers specialized analytical and consultant services to clients as well as chemical products for water treatment.

Municipal waste water treatment is the forte of Allis-Chalmers, which last year contracted with West Germany's J. Conrad Stengelin Co. to make and market the Bio-Disc system. The key to this system is a series of closely set rotating disks which eventually become covered with a "lawn" of bacterial growth difficult to dislodge. With the bacteria attached to the equipment, operation can survive flooding without loss of efficiency or damage to parts.

Universal Oil Products, conversely, is an example of a company heavily involved in cleaning up the air. UOP's air correction division makes combustion chambers for difficult-to-burn gases, electrostatic precipitators to tackle particulate matter, wet scrubbers, catalytic combustion systems, and centrifugal dust collectors. The division also runs an analytical service



Allied's Edward Callahan
New environment department

for gaseous plant emission to determine compliance with regulations and for prescribing remedial measures.

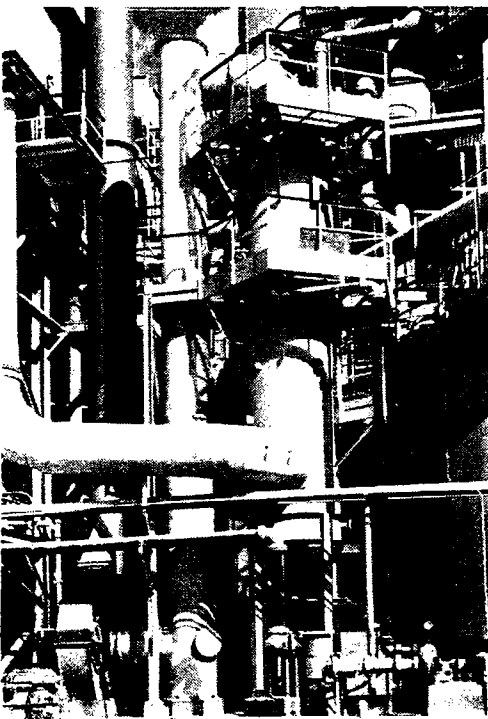
Both air and water pollution are the province of Monsanto Enviro-Chem Systems, Inc., set up as a Chicago-based subsidiary of Monsanto. The new company is formed partly from Monsanto Biodize Systems and Cat-Ox Systems. Heart of Monsanto's Biodize process is bacterial oxidation of organic material; the Cat-Ox process desulfurizes flue gases.

Nalco, meanwhile, is planning to get into pollution analysis via its Bio-Test Laboratories. Nalco is already in water purification with its SUL-BiSul process based on Dow ion exchange resins. The process is aimed at treatment of mine waste water.

The flavors and fragrances division of Rhodia markets chemicals and makes equipment for neutralizing industrial or other odors. Rhodia, a wholly owned subsidiary of France's Rhône-Poulenc, is also interested in developing technology to remove pollutants from industrial effluent air.

The odor neutralization technique—which Rhodia terms reodorization—calls for volatilizing prescribed amounts of mixed chemicals into the wind from an industrial or sewage disposal plant. Rhodia claims it can formulate chemicals complementary to the objectionable odor, with the result

Universal Oil Products' two-stage wet scrubber collects fluorides



INDUSTRY

Whatever else happens to lead antiknock compounds, at least they'll cost more. At a time when lead compounds in gasoline are being sternly attacked as deterrents to decreasing air pollution from autos, Ethyl Corp. plans to increase prices of the various formulations of tetraalkyllead compounds by an average of 2.1%, effective March 23. Du Pont and Nalco Chemical are following Ethyl's lead. The companies blame the price increase on higher production costs.

Meanwhile, General Motors is answering oil firms' promises to produce unleaded gasoline if auto makers would build an engine to use such fuel. The auto giant has disclosed that all of its 1971 model cars will be able to use unleaded gasoline of regular-grade gasoline quality. The oil companies now have until September to convert their refineries—not an easy task. Although use of unleaded gasoline could presumably lead to increased emissions of aromatics and aldehydes—which might create more smog instead of less—catalytic mufflers to remove the hydrocarbons could then be used. Lead poisons the catalysts in most of these emission-control devices. Whether either the unleaded gasoline or the catalytic mufflers will be ready for the new cars this fall is not yet clear. If they are used, however, the consumer will likely foot the expected added costs.

Celanese Fibers Marketing has set up a department acting as consumer ombudsman. Called the consumer information department and headed by Fred Fortess, the department will keep a two-way communications bridge between Celanese and consumers at all levels, guiding the company's technical operations on textile performance characteristics wanted by consumers. The new department is free to work directly with any other company department to maintain or improve the consumer value of textile products and to communicate textile performance benefits to industry and consumers. The new group is a natural outgrowth of two older Celanese departments in customer relations.

Dow's strong financial showing in 1969 can be attributed to the company's excellent sales and profits outside the U.S. and a strong plastics business both here and abroad, says Dow chairman Carl A. Gerstacker. Dow had a net profit for the year of \$148.7 million, up 8.5% from 1968, on sales of \$1.8 billion. This figure includes special credit of \$7.7 million. Pittsburgh-based Koppers Co. had a good year, too. Koppers earned \$3.72 million in fourth-quarter 1969, up 6% from the same period in 1968. Earnings for the year were \$18.4 million, 8% ahead of the year before.

Merck & Co., Inc., is streamlining marketing operations and buying into pollution control. The Rahway, N.J., firm has integrated its Calgon subsidiary's paper products division with its own Metasol paper products group to form a paper chemicals sales organization. Merck president Henry W. Gadsden has announced agreement in principle with Baltimore Aircoil Co. for Merck to buy that company in a \$44 million stock trade. Merck will give 7 shares of its own stock for every 10 shares of Baltimore Aircoil, which is a maker of water cooling towers, evaporative condensers, and other commercial air conditioning and refrigeration equipment. Merck sees the prospective acquisition as an entry into the fields of thermal pollution and water conservation. For other details of chemical firms getting into pollution control for profit, see story on page 22.



Disks are the heart of Allis-Chalmers' test secondary waste treatment system

that the nose detects little, if any, aroma. One such chemical is musk ketone—4-*t*-butyl-2,6-dimethyl-3,5-dinitroacetophenone—which has been used to neutralize odors from diesel engines of buses.

Carbide's stake in the environment control business is oxygen. The company's Linde division predicts that use of oxygen for municipal water treatment in the 1970's will surpass amounts consumed in basic oxygen process steel-making. Next month Linde will unveil a process for oxygenating water in municipal water treatment plants.

Exceptions. Not every chemical firm is rushing to get into pollution control. Among those that have so far refrained from ventures for profit in the environment business are Celanese and Stauffer Chemical. Many times, says Celanese, there have been opportunities to follow such a path as a result of leads opened in other research. Most of these opportunities involved equipment rather than chemicals, however, and Celanese doesn't see the advantage of going down such a road.

Stauffer is also shying away from becoming a purveyor of equipment. A licensing agreement of Stauffer's specialty chemicals division with Resource Control, Inc., West Haven, Conn., to market an electrolytic decomposer of cyanides is the only Stauffer pollution venture to date. The plating industry is a big market for Stauffer, which feels that marketing the cyanide equipment is an appropriate move to service this area. But Stauffer is not ready to move wholesale into environmental technology.

Wall Street focuses attention on pollution control stocks in otherwise gloomy year

Although the stock market in general has wilted under steady selling pressure in the past few months, stocks of companies in the antipollution business have been Wall Street's darlings. Since the play began last fall, prices of many such issues have climbed by 50% or more. (The Dow Jones industrial average is off 12% since the end of October.) Price multiples frequently have soared, as well, to 30, 40, and 50 times earnings or more. (The price-earnings ratio for the Dow Jones industrials now stands at about 13.) Clearly, a lot of people—institutional investors as well as individuals—expect a lot of companies to make a lot of money in pollution control.

Investors have several ways in which to get a piece of the antipollution action. Some of the biggest gains in recent months have been run up in stocks of large, well-established companies with only a comparatively small position in the field: companies like American Air Filter (with about 20 to 25% of its business in pollution products), Neptune Meter (20%), Wheelabrator (15 to 20%), Joy Mfg. (10%), and Universal Oil Products (less than

10%). Many investors have placed their chips, though, on companies like Betz Laboratories, Research-Cottrell, Zurn Industries, Baltimore Aircoil, and Marley, whose stake in pollution control runs to 50% or more of total sales.

Despite all the recent activity, many security analysts continue to look with favor on the antipollution shares, especially for the long pull. "For the first time, pollution control has grassroots support and has attracted a tremendous amount of interest," points out Lester Krellenstein of H. Hentz & Co., "so I remain very bullish." "Although you have to pay the price if you want to play the game, prices are not dangerously high on the whole because these issues are likely to keep their glamor image for a long time," adds Roland Williams of E. F. Hutton & Co. "Prices of some of the stocks could go to 100 times earnings if we get a strong market."

Caution signal. Even so, caution flags are flying in many quarters. Mr. Krellenstein, for one, thinks that P/E ratios of 50 to 60 are generally too high and carry considerable risk. "Antipollution is shaping up as one of the

Pollution control stocks: where the action is

	Stock price				Price-earnings ratio
	1969-70 range				
	High	Low	10/31/69	Recent	
American Air Filter	65	25	33¼	60	33
Aqua-Chem	64½	31	52	56	46
Betz Laboratories	49	33	37¾	52	70
Buffalo Forge	57	30¾	34⅝	52	22
Culligan	26⅝	16⅝	23⅞	21	21
Dorr-Oliver	25⅝	10	14⅝	16	—
Ecological Science	28¾	13	17⅝	26	50
Joy Mfg.	50½	25¾	33	51	20
Marley	49⅞	22¾	38½	47	44
Nalco Chemical	68½	49	61¼	57	37
Neptune Meter	36⅞	18¼	19⅞	26	29
Research-Cottrell	67¼	31⅝	44½	59	85
Slick	29⅞	10⅞	15¾	22	24
Sybron	45	27	35⅝	43	30
Universal Oil Products	38½	20¾	23½	32	22
Wheelabrator	48⅞	19	34	45	17
Zurn Industries	38	20¾	24⅞	37	46

two or three real growth areas in 1970, but some of the stocks are priced so high in relation to earnings and dividends that anyone who buys them now is coming late to the feast," warns Robert H. Stovall of Reynolds & Co. "Solid earnings from pollution control are still way down the road," says Dr. William Lowden of G. H. Walker & Co., "and the present earnings multiples are likely to fall to something more reasonable once disappointing earnings statements start to come in." Adds another analyst bluntly: "My advice is to sell them short."

One of the problems, as analysts see it, is that despite all the talk about big dollar outlays for pollution control, total spending is still difficult to project. Much of the money for new facilities, too, will go into cement, brick, pipe, and other construction materials or to local builders and contractors rather than to the equipment makers. Many of the equipment producers—of the type one analyst calls "the metal benders"—make relatively mundane products, moreover, that by and large are based on mature technology, are highly competitive, and command rather low profit margins. These are products, too, likely to attract bigger competitors trying to carve out a piece of the market with me-too items.

Fad fading. Some analysts fear that the current fad in antipollution stocks may have about run its course. "Although the long haul looks good," says Dr. David Priest of Faulkner, Dawkins, & Sullivan, "some of the bloom may be off the rose in the near term." Already, some profit taking has shown up, and there is no question that many of the highest flying stocks are vulnerable should earnings not match investors' optimistic expectations or if they are hit by other unfavorable news.

Nalco Chemical is a case in point. After touching an all-time high at 68½ early last month, the price of the stock—a favorite among many analysts—tumbled to a 1969-70 low of 49 early this month. Part of the slump may stem from investors' disappointment in last year's earnings, even though earnings were up 13% to \$1.51 a share. Probably more of a factor, however, was concern about the future of Nalco's tetramethyl- and tetraethyl-lead business.

Wall Street's growing awareness of pollution cuts both ways, of course. Ethyl Corp., with its big stake in lead antiknock compounds, has run afoul of the current debate over pollution from auto exhaust. The price of its stock hit 15 this month, the lowest it has been since 1963. At that level, the shares sold at only a little more than five times last year's operating earnings, which were up 6% to \$2.77 a share.

Better days ahead, Carbide president says

For the past three years Union Carbide has been a big company with some big problems. It still is, but it is beginning to see some light at the end of the tunnel. Things started to get better last year, and they look like they'll continue to improve in 1970.

Lower-than-expected demand and weak pricing in some major product lines joined with heavy startup expenses and some serious operating difficulties to cut earnings from their high of \$3.97 per share in 1966 to \$2.60 per share in 1968.

Last year saw the start of a recovery. Earnings moved up 19% to \$3.08 per share and sales gained 9% to reach \$2.93 billion. In an interview earlier this month Carbide president Perry Wilson said he expects further gains in sales, earnings, and profit margin in 1970. The 55-year-old Mr. Wilson, who has been a Carbide employee for 29 years, became president last June. He replaced Kenneth Rush, who became U.S. Ambassador to West Germany.

Better plant efficiencies and sharp cost cutting are two of the factors behind the improving company performance. The biggest operating progress has been made at the Taft, La., complex. This \$200 million facility was plagued by technical troubles and repeated shutdowns in 1968 and the early part of 1969. It was responsible for most of the 26 cent-per-share earnings loss due to extraordinarily heavy startup expenses in 1968.

Mr. Wilson says the Taft operation was materially better in 1969, and the plant is now running very well at close to capacity. The core olefins unit, however, is not yet up to full production. He also says there have been two further shutdowns in the past two months, but the facility recovered very quickly from both of these.

On the subject of cost cutting, the company held its selling, general, and administrative expenses at a \$290 million annual level for 1967 and 1968 and dropped it a little in 1969. This has been done in spite of inflation and in spite of a 15% increase in sales. Mr. Wilson admits these expenses may have been cut back a little too much in some instances. There will also be some increase in sales overhead this year, he adds.

In another economy move Carbide has cut its research and development spending from \$85 million in 1967 to \$77 million last year. This year it will increase R&D spending slightly to \$80 million. Yet another reflection of the company's recent cost cutting shows up in total employment. In 1966 Carbide had al-



most 102,000 employees (not including those at government-owned facilities). Today employment has decreased to less than 100,000.

Mr. Wilson says he expects higher sales for most of the company's product lines in 1970. Consumer products accounted for about 21% of company sales in 1969 and they will continue to be one of the fastest growing sections of the company. Slowly improving prices for some plastics will help in the chemicals and plastics category which last year made up about 42% of sales. Growth in metals, carbon products, and industrial gases—which altogether contributed about 34% to company sales last year—is closely tied to steel industry fortunes. Steel was strong last year and production has stayed high so far this year. Mr. Wilson adds that sales growth was particularly strong for industrial gases late last year—although profitability remains unsatisfactory.

Another reason behind Mr. Wilson's generally bullish outlook is an expectation of some relative improvement in chemical prices. Last year Carbide's selling price index continued its long-term downward movement with another 2% dip. However, Mr. Wilson says he has recently seen some determined efforts within the industry to improve prices. He says Carbide will do everything it can to help stabilize prices in 1970. He sees better pricing policies as one of the really critical needs of the industry.

Mr. Wilson says that no new long-term borrowing will be needed to finance the company's planned 1970 capital expenditures of about \$350 million. Last year the company invested \$322 million. Much of the money is going into Puerto Rico where the company is undertaking a \$225 million expansion of its Ponce facility. This work is on schedule so far, Mr. Wilson says. It should be completed by the end of 1971, as planned.