

FINANCE

C&EN's top 50 US chemical producers

A drop in sales and earnings reflects an industry hit by the COVID-19 pandemic

ALEX TULLO, C&EN STAFF

Dow's complex in Freeport, Texas



Like companies everywhere, US chemical makers were buffeted last year by COVID-19. Lockdowns due to the pandemic slowed economic activity to a crawl, and firms scrambled to respond by cutting capital spending and other costs.

The pandemic's effects are reflected in C&EN's latest survey of the top 50 US chemical producers, which is based on data from 2020. The 50 firms combined for \$250.9 billion in chemical sales, 10.1% lower than what they had posted a year earlier.

Profits declined even more sharply. The 46 firms that report chemical operating income combined for \$24.8 billion, down 15.6%.

The results were worse in the depths of the pandemic, in April and May of last year. Many chemical companies saw chemical sales fall more than 20% in the second quarter last year. For example, Dow reported a sales drop of 24.2% in the period, compared with a 10.3% decline for the full year.

But business started to pick up in the second half of 2020, particularly the fourth quarter. The industry also benefited from demand for some key products. For instance, Dow's sales of polyethylene, used in packaging, actually rose for the year.

Worried about having enough cash to make it through the pandemic, chemical companies cut costs wherever they could. Capital spending was a frequent target. In many cases, project construction had to stop because of the pandemic. The 43 companies that disclose capital

spending numbers reported a decline of 17.8%, to a combined \$15.7 billion.

R&D spending held up better, slipping only 2.9%, to \$3.5 billion, for the group of 31 companies that report such outlays.

The current survey reflects a few other changes from the one C&EN published a year ago. Three firms have fallen off the ranking. Versum Materials was acquired by Merck KGaA. Emerald Performance Materials sold a major business to Huntsman last year, and Lanxess is buying the rest of the company. And Innophos was purchased by the private equity firm One Rock Capital.

Three new firms joined the group: ChampionX, which was Ecolab's former oil-field chemical business; the choline chloride maker Balchem; and the agricultural chemical firm American Vanguard, which has grown recently.

Of course, C&EN's survey isn't comprehensive, as it includes only companies that report chemical sales figures publicly. Many private companies that don't have to report these figures publicly—like TPC Group, SI Group, and Koch Industries—certainly have the sales to make the ranking, as do public companies like Procter & Gamble and PPG Industries, which don't break out the sales of their chemical divisions.

1 Dow

► **2020 chemical sales:** \$38.5 billion

Dow is once again the largest US chemical maker. In 2020, its first full year after splitting from DowDuPont, the company initiated a round of cost cutting, partly because of financial pressures resulting from the COVID-19 pandemic. In July, Dow said it was reducing its workforce by 6%—about 2,200 jobs—in an effort to save more than \$300 million annually by the end of 2021. As part of the plan, Dow is shutting some amine and solvent plants in the US and Europe and closing small polyurethane plants and coatings reactors. Dow also divested terminal and rail assets in 2020.

2 LyondellBasell Industries

► **2020 chemical sales:** \$23.4 billion

In recent years, LyondellBasell Industries has cultivated a reputation for expanding capacity with little risk by not building large projects itself. Keeping with this strategy, the company twice purchased stakes in petrochemical projects that another firm took the trouble to construct. For \$2 billion, LyondellBasell bought a 50% interest in an ethylene cracker and two polyethylene plants in Lake Charles, Louisiana, that Sasol built as part of a \$12.5 billion project that went severely over budget. LyondellBasell also bought a 50% stake in a petrochemical project in Panjin, China.

CREDIT: DOW

3 ExxonMobil

► **2020 chemical sales:** \$23.1 billion

After a long time on the sidelines of the plastic-waste debate, ExxonMobil recently got into the game of chemical recycling plastic waste. With the recycling firm Agilyx, ExxonMobil formed a joint venture, Cyclyx, that will scale up systems for gathering postconsumer plastic waste for recycling. The oil giant has also conducted trials of a new chemical recycling process at its Baytown, Texas, plant and signed an agreement with Plastic Energy to build a plastic pyrolysis plant at its petrochemical complex in France.

4 DuPont

► **2020 chemical sales:** \$20.4 billion

DuPont appears to have finished restructuring and settled on a permanent portfolio. The company sold its Nutrition & Biosciences division to International Flavors & Fragrances in February, generating \$7.3 billion in proceeds earmarked for investment and paying down debt. DuPont decided to hold on to its electronic materials business, which it had considered divesting. Augmenting this business, it recently announced the purchase of Laird Performance Materials, a specialist in electronic shielding, for \$2.3 billion.

5 Air Products

► **2020 chemical sales:** \$8.9 billion

The industrial-gas maker is organizing the largest green ammonia project in the world. With local partners, Air Products intends to spend \$5 billion on a complex in Saudi Arabia that will generate power from solar and wind, use the electricity to make hydrogen from water, and produce 1.2 million metric tons per year of ammonia from that hydrogen. Air Products plans to spend an additional \$2 billion to distribute the ammonia globally to convert back to hydrogen for fuel-cell trucks and buses.

6 Mosaic

► **2020 chemical sales:** \$8.7 billion

The fertilizer maker is looking for a little help—from microbes—to make its crop nutrients more effective. Late last year, Mosaic signed an agreement with the biotechnology firm BioConsortia on nitrogen-fixing bacteria. Similarly, it is partnering with Sound Agriculture on activators for soil microbiomes. Mosaic is also collaborating with AgBiome on a project intended to minimize fertilizer loss to the environment.

7 Eastman Chemical

► **2020 chemical sales:** \$8.5 billion

Eastman Chemical is moving forward with one of the most ambitious chemical recycling projects in the US: a \$250 million

depolymerization plant in its hometown of Kingsport, Tennessee. The plant will use methanolysis to break down as much as 100,000 metric tons per year of polyethylene terephthalate (PET) into the raw materials dimethyl terephthalate and

Spending

Capital spending nose-dived in 2020 as chemical companies trimmed budgets.

	CHEMICAL CAPITAL SPENDING			CHEMICAL R&D SPENDING		
	2020 (\$ MILLIONS)	CHANGE FROM 2019	% OF CHEMICAL SALES	2020 (\$ MILLIONS)	CHANGE FROM 2019	% OF CHEMICAL SALES
AdvanSix	\$83	−44.8%	7.2%	\$12	−15.1%	1.0%
Air Products	2,509	26.1	28.3	84	15.1	0.9
Albemarle	851	−0.2	27.2	59	1.5	1.9
American Vanguard	11	−13.8	2.4	26	9.1	5.7
Americas Styrenics	46	−14.9	4.2	2	−13.0	0.2
Ashland	138	−10.4	5.9	64	−3.0	2.8
Avient	31	41.9	2.0	n/a	n/a	n/a
Balchem	29	30.3	4.9	10	−9.6	1.7
Cabot	200	−10.7	7.7	57	−5.0	2.2
Celanese	364	−1.6	6.4	74	10.4	1.3
CF Industries	309	−23.5	7.5	n/a	n/a	n/a
Chemours	267	−44.5	5.4	93	16.3	1.9
CMC Materials	126	124.6	11.3	52	1.2	4.7
Corteva Agriscience	250	−14.7	3.9	n/a	n/a	n/a
Dow	1,252	−36.2	3.2	768	0.4	2.0
DuPont	1,194	−51.7	5.9	860	−9.9	4.2
Eastman Chemical	383	−9.9	4.5	226	−3.4	2.7
ExxonMobil	1,813	−6.2	7.9	n/a	n/a	n/a
Ferro	32	−51.1	3.3	36	−13.2	3.7
FMC	67	−28.4	1.4	288	−3.4	6.2
GCP Applied Technologies	26	−42.7	4.9	n/a	n/a	n/a
Genesis Energy	96	−11.4	10.8	n/a	n/a	n/a
W. R. Grace	156	−19.9	9.0	65	2.2	3.8
H.B. Fuller	87	40.8	3.1	37	1.1	1.3
Hexion	108	6.9	4.3	38	−24.0	1.5
Huntsman	249	−9.1	4.2	135	−1.5	2.3
Ingevity	82	−28.5	6.8	23	14.7	1.9
Innospec	30	−0.7	2.5	31	−12.7	2.6
Koppers	37	46.4	4.1	n/a	n/a	n/a
Kraton	74	−28.7	4.7	41	−1.0	2.6
Kronos Worldwide	63	14.0	3.8	16	−5.9	1.0
LyondellBasell Industries	1,763	−30.3	7.5	113	1.8	0.5
Minerals Technologies	47	23.3	9.1	n/a	n/a	n/a
Mosaic	1,171	−8.0	13.5	n/a	n/a	n/a
NewMarket	93	57.1	4.6	140	−2.8	7.0
Occidental Petroleum	261	−4.0	7.0	n/a	n/a	n/a
Olin	214	−20.8	4.4	n/a	n/a	n/a
Orion Engineered Carbons	145	−7.0	12.8	20	1.5	1.8
PQ	97	−23.9	8.8	12	−17.1	1.0
Stepan	126	19.1	6.7	58	5.5	3.1
Trinseo	82	−25.2	2.7	60	10.6	2.0
Tronox	195	−1.5	7.1	12	−29.4	0.4
Westlake Chemical	525	−33.3	7.0	n/a	n/a	n/a

Sources: Company documents, C&EN analysis. **Note:** Figures are for companies on the top 50 list reporting capital and/or R&D expenditures. n/a means not available.

Top 50 US chemical firms

During a 2020 colored by COVID-19, chemical sales declined for almost all firms.

RANK		COMPANY	CHEMICAL SALES (\$ MILLIONS)	CHANGE FROM 2019	CHEMICAL SALES AS % OF TOTAL SALES	SECTOR	CHEMICAL OPERATING PROFIT ^a (\$ MILLIONS)	CHANGE FROM 2019	OPERATING PROFIT MARGIN ^b	HEADQUARTERS	IDENTIFIABLE CHEMICAL ASSETS (\$ MILLIONS)	OPERATING RETURN ON CHEMICAL ASSETS ^c
2020	2019											
1	1	Dow	\$38,542	-10.3%	100.0%	Diversified	\$2,556	-27.4%	6.6%	Midland, Michigan	\$61,470	4.2%
2	3	LyondellBasell Industries	23,407	-13.7	84.3	Petrochemicals	2,938	-36.3	12.6	Houston	n/a	n/a
3	2	ExxonMobil	23,091	-15.8	12.9	Petrochemicals	2,675	180.1	11.6	Irving, Texas	38,059	7.0
4	4	DuPont	20,397	-5.2	100.0	Diversified	1,661	-40.4	8.1	Wilmington, Delaware	70,904	2.3
5	7	Air Products ^d	8,856	-0.7	100.0	Industrial gases	2,138	0.8	24.1	Allentown, Pennsylvania	25,169	8.5
6	8	Mosaic	8,682	-2.5	100.0	Fertilizers	693	27.7	8.0	Tampa, Florida	19,790	3.5
7	6	Eastman Chemical	8,473	-8.6	100.0	Diversified	1,095	-16.3	12.9	Kingsport, Tennessee	16,083	6.8
8	5	Chevron Phillips Chemical	8,439	-9.6	100.0	Petrochemicals	n/a	n/a	n/a	The Woodlands, Texas	17,026	n/a
9	10	Westlake Chemical	7,504	-7.6	100.0	Petrochemicals	465	-32.9	6.2	Houston	13,835	3.4
10	14	Corteva Agriscience	6,461	3.3	45.4	Agrochemicals	625	-9.9	9.7	Wilmington, Delaware	13,099	4.8
11	9	Ecolab ^e	5,960	-33.1	50.5	Process services	1,106	-10.4	18.6	Saint Paul, Minnesota	n/a	n/a
12	12	Lubrizol	5,950	-8.5	100.0	Specialties	1,000	0.0	16.8	Wickliffe, Ohio	n/a	n/a
13	11	Huntsman	5,903	-11.4	100.0	Diversified	190	-58.6	3.2	The Woodlands, Texas	8,713	2.2
14	13	Celanese	5,655	-10.2	100.0	Diversified	715	-30.7	12.6	Irving, Texas	10,909	6.6
15	16	Chemours	4,969	-10.1	100.0	Diversified	447	2.8	9.0	Wilmington, Delaware	7,082	6.3
16	15	Honeywell International	4,833	-15.0	14.8	Fluorochemicals	n/a	n/a	n/a	Charlotte, North Carolina	n/a	n/a
17	17	Olin	4,830	-11.3	83.9	Chlorine chemistry	44	-88.7	0.9	Clayton, Missouri	7,319	0.6
18	18	FMC	4,642	0.7	100.0	Agrochemicals	1,034	4.2	22.3	Philadelphia	10,186	10.2
19	19	CF Industries	4,124	-10.2	100.0	Fertilizers	595	-36.4	14.4	Deerfield, Illinois	12,023	4.9
20	20	Occidental Petroleum	3,733	-9.0	21.0	Petrochemicals	664	-16.9	17.8	Houston	4,326	15.3
21	22	Albemarle	3,129	-12.8	100.0	Specialties	506	-24.1	16.2	Charlotte, North Carolina	10,451	4.8
22	21	Trinseo	3,036	-19.6	100.0	Polymers	63	118.7	2.1	Berwyn, Pennsylvania	2,845	2.2
23	25	H.B. Fuller ^f	2,790	-3.7	100.0	Specialties	218	-3.4	7.8	Saint Paul, Minnesota	4,037	5.4
24	26	Tronox	2,758	4.4	100.0	Pigments	274	134.2	9.9	Stamford, Connecticut	6,568	4.2
25	24	Cabot ^d	2,614	-21.7	100.0	Specialties	151	-54.9	5.8	Boston	2,781	5.4
26	23	Hexion	2,510	-25.6	100.0	Specialties	45	-61.5	1.8	Columbus, Ohio	4,002	1.1
27	27	Ashland ^d	2,326	-6.7	100.0	Specialties	134	-17.3	5.8	Wilmington, Delaware	6,877	1.9
28	29	Avantor	2,044	1.7	32.0	Laboratory chemicals	n/a	n/a	n/a	Radnor, Pennsylvania	n/a	n/a
29	28	NewMarket	2,011	-8.2	100.0	Fuel additives	312	-7.6	15.5	Richmond, Virginia	1,934	16.1
30	31	Stapan	1,870	0.6	100.0	Detergents	183	25.9	9.8	Northfield, Illinois	1,752	10.4
31	30	W. R. Grace	1,730	-11.7	100.0	Specialties	268	-37.8	15.5	Columbia, Maryland	3,766	7.1
32	33	Kronos Worldwide	1,639	-5.3	100.0	Pigments	133	-16.1	8.1	Dallas	2,037	6.5
33	32	Kraton	1,563	-13.4	100.0	Polymers, pine chemicals	69	-20.8	4.4	Houston	2,461	2.8
34	45	Avient ^e	1,497	50.0	46.2	Pigments	181	22.7	12.1	Avon Lake, Ohio	3,019	6.0
35	39	Ingevity	1,216	-5.9	100.0	Pine chemicals	294	-1.9	24.1	North Charleston, South Carolina	2,335	12.6
36	35	Innospec	1,193	-21.2	100.0	Fuel additives	75	-50.1	6.3	Englewood, Colorado	1,397	5.4
37	38	AdvanSix	1,158	-10.8	100.0	Polymers	63	4.7	5.4	Parsippany, New Jersey	1,263	5.0
38	37	Orion Engineered Carbons	1,136	-23.0	100.0	Carbon black	96	-41.1	8.4	Houston	1,390	6.9
39	43	CMC Materials ^d	1,116	7.6	100.0	Electronic materials	219	23.2	19.6	Aurora, Illinois	2,377	9.2
40	36	Americas Styrenics	1,116	-24.9	100.0	Polymers	87	56.0	7.8	The Woodlands, Texas	606	14.3
41	34	PQ	1,107	-29.3	100.0	Inorganics	148	-33.8	13.4	Malvern, Pennsylvania	3,198	4.6
42	—	ChampionX ^e	1,054	n.m.	55.5	Process services	88	n.m.	8.4	The Woodlands, Texas	n/a	n/a
43	40	3M	1,036	-16.9	3.2	Fluorochemicals	n/a	n/a	n/a	Saint Paul, Minnesota	n/a	n/a
44	44	Ferro	959	-5.8	100.0	Pigments	91	-5.2	9.5	Mayfield Heights, Ohio	1,961	4.7
45	42	Koppers	910	-12.4	54.5	Coal tar chemicals	112	15.3	12.3	Pittsburgh	960	11.7
46	41	Genesis Energy	886	-20.4	48.6	Inorganics	130	-41.9	14.7	Houston	1,962	6.6
47	—	Balchem	593	12.9	84.2	Nutritional ingredients	91	23.0	15.4	New Hampton, New York	875	10.4
48	48	GCP Applied Technologies	519	-10.4	57.5	Construction chemicals	53	-6.5	10.2	Cambridge, Massachusetts	444	11.9
49	49	Minerals Technologies	511	-11.1	32.0	Inorganics	68	-18.4	13.3	New York City	560	12.1
50	—	American Vanguard	459	-2.0	100.0	Agrochemicals	18	-30.2	4.0	Newport Beach, California	680	2.7

Sources: Company documents, C&EN analysis. **Note:** n/a means not available, and n.m. means comparison not meaningful. **a** Chemical sales less administrative expenses and cost of sales. **b** Chemical operating profit as a percentage of chemical sales. **c** Chemical operating profit as a percentage of identifiable chemical assets. **d** Fiscal year ended Sept. 30, 2020. **e** Chemical sales include a significant amount of nonchemical products. **f** Fiscal year ended Nov. 30, 2020.

ethylene glycol. The project follows a pilot program that Eastman has been running for about a year to break down PET using glycolysis. Eastman plans to use the output from the plants to make specialty polyesters.

8 Chevron Phillips Chemical

► **2020 chemical sales:** \$8.4 billion

Chevron Phillips Chemical got new leaders this year. Mark Lashier retired as president and CEO in April, and two executives are taking his place: Bruce Chinn, formerly the head of Chevron Chemicals, replaced him as CEO. And B. J. Hebert, who joined Chevron Phillips in 2020 after 3 years as president of Occidental Chemical, assumed the roles of president and chief operating officer.

9 Westlake Chemical

► **2020 chemical sales:** \$7.5 billion

Like most US chemical companies, Westlake Chemical had to contend with the economic impact of the COVID-19 pandemic. But the polyolefin and vinyl maker was hit hard by hurricanes too. In late August, Westlake shut down its Lake Charles, Louisiana, complex before it took a direct hit from Hurricane Laura. It reopened the plant in September, only to have to idle it again in October because of Hurricane Delta. It resumed production in November. In all, Westlake suffered \$83 million in costs associated with the storms.

10 Corteva Agriscience

► **2020 chemical sales:** \$6.5 billion

Corteva Agriscience faced an insurrection in early 2021 from the investor Starboard Value, which maintained that Corteva had not achieved the cost savings and profitability that it promised when it was spun off from DowDuPont as an agricultural chemical and seed specialist. The hedge fund sought to remove Corteva CEO Jim Collins and install eight new directors. Instead, Corteva agreed to appoint three directors proposed by Starboard.

11 Ecolab

► **2020 chemical sales:** \$6.0 billion

Last June, Ecolab completed the merger of its oil-field chemical business with the oil-field services firm Apergy. The result: ChampionX, which debuts in C&EN's US top 50 ranking at number 42 with \$1.1 billion in chemical sales. Ecolab's chemical business now consists mostly of water treatment chemicals, but those are still

sufficient to put the company at number 11 in the survey.

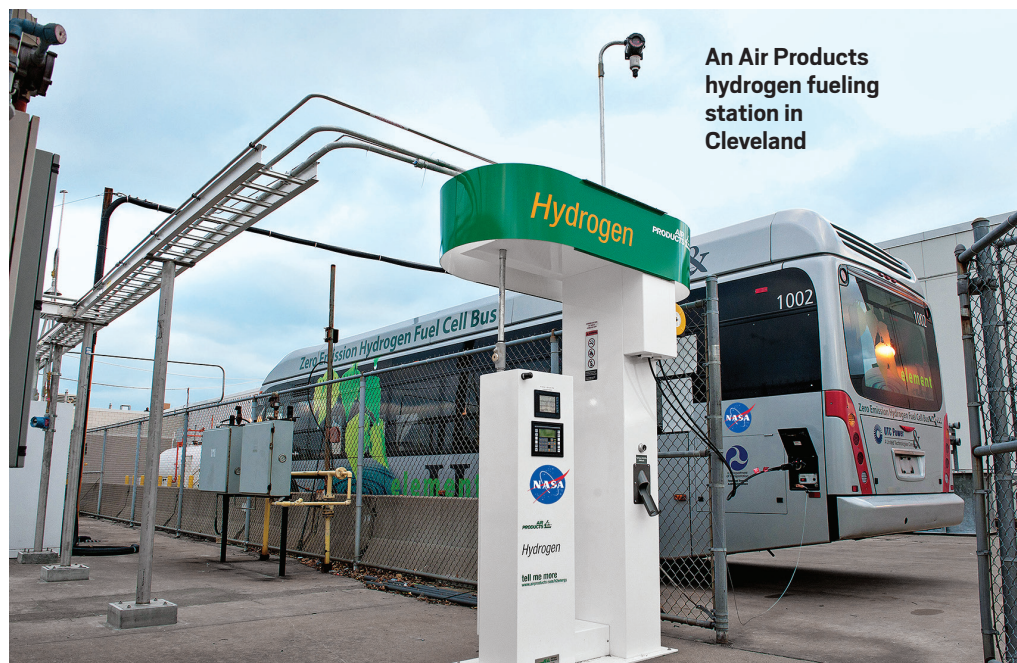
12 Lubrizol

► **2020 chemical sales:** \$6.0 billion

Lubrizol, the specialty chemical arm of the conglomerate Berkshire Hathaway, made a couple of small but key investments over the past year. In November, the firm announced that it would build a chlorinated polyvinyl chloride plant in Gujarat, India, by 2022. The plant will serve the country's water infrastructure market. Lubrizol also bought Avid Product Development, a Colorado-based provider of 3D-printing services.

13 Huntsman

► **2020 chemical sales:** \$5.9 billion



An Air Products hydrogen fueling station in Cleveland

Flush with cash from the \$2 billion sale of its intermediates and surfactant business to Indorama in January 2020, Huntsman went shopping. It bought CVC Thermoset Specialties, part of Emerald Performance Materials, for \$300 million. CVC makes specialty epoxy resins, reactive modifiers, polymer tougheners, curing agents, and nitrile latex. And Huntsman purchased Gabriel Performance Products, which makes epoxy additives and curing agents, for \$250 million this year.

14 Celanese

► **2020 chemical sales:** \$5.7 billion

In October, Celanese closed the sale of its stake in the Polyplastics Engineering

Plastics joint venture to its partner, Daicel, for nearly \$1.6 billion. Celanese quickly deployed the cash on expansion. Most notably, Celanese's Clear Lake, Texas, methanol joint venture with Mitsui is building a unit to convert waste carbon dioxide to methanol. Using a next-generation catalyst, Celanese will expand vinyl acetate capacity in Nanjing, China. And in Europe, the firm aims to build an ultra-high-molecular-weight polyethylene plant.

15 Chemours

► **2020 chemical sales:** \$5.0 billion

In January of this year, Chemours eliminated a problem that had dogged it since 2015, when it was spun off from DuPont: liabilities related to sites contaminated for decades with per- and polyfluoroalkyl substances stemming from when DuPont

ran the business. In 2019, Chemours sued its former parent, alleging that DuPont management had misled Chemours's leadership about the scope of the environmental costs. After arbitration, the two companies—along with Corteva Agriscience, which includes old DuPont businesses—agreed to split up to \$4 billion in liabilities.

16 Honeywell International

► **2020 chemical sales:** \$4.8 billion

Honeywell International's UOP technology arm got a feather in its cap recently when Chevron finished building an ionic liquid-based alkylation unit at Chevron's refinery in Salt Lake City. The technology—developed by Chevron and licensed by

UOP—circumvents many of the problems involved in handling hydrofluoric and sulfuric acid, which are traditionally used in the octane-producing process. UOP is already working on three licenses for the technology.

17 Olin

► **2020 chemical sales:** \$4.8 billion

Olin's chemical business—primarily a maker of chlorine, caustic soda, and derivatives—has been going through some tough times. Chemical sales dropped over 11% in 2020, while chemical earnings plummeted almost 90%. As a result, the company announced the permanent closure of a diaphragm-electrolysis-based chlor-alkali facility in McIntosh, Alabama. Olin's nonchemical business, the Winchester ammunition unit, has been booming.

18 FMC

► **2020 chemical sales:** \$4.6 billion

FMC has made the strategic decision to specialize in crop protection chemicals. It acquired a chunk of DuPont's crop protection business in exchange for its own health and nutrition business in 2017, and in 2019 it spun off its lithium chemical business, forming Livent. Last year, FMC formed a venture capital arm to invest in emerging crop protection technologies.

19 CF Industries

► **2020 chemical sales:** \$4.1 billion

The maker of nitrogen fertilizer is jumping with both feet into selling ammonia as a clean fuel. In Donaldsonville, Louisiana, CF Industries is building the largest green ammonia project in the US. It will spend \$100 million to install water electrolyzers that produce the hydrogen needed to make carbon-free ammonia. CF also plans to convert a chunk of its current ammonia production to blue ammonia, so called because its by-product, carbon dioxide, is captured.

20 Occidental Petroleum

► **2020 chemical sales:** \$3.7 billion

Occidental Petroleum has gone bananas! Its green investing arm, Oxy Low Carbon Ventures, is working with the start-up Cemvita on a microorganism that converts carbon dioxide and water into ethylene. The bug is engineered with a gene that bananas use to make ethylene in the ripening process. The firms are building a pilot plant set to open next year and hope to establish a CO₂-based process to make ethylene for Occidental's polyvinyl chloride business.

21 Albemarle

► **2020 chemical sales:** \$3.1 billion

Albemarle inked an agreement this February to sell its fine chemical unit to W. R. Grace for \$570 million. The business has about \$160 million in annual sales, mostly of custom synthesized intermediates and active pharmaceutical ingredients. Albemarle has been trying to unload the unit since 2015. The divestment will allow the company to focus on its high-growth lithium business and bromine and refin-

ing catalyst units. Furthering these goals, Albemarle unveiled plans in January to double its US lithium production.

22 Trinseo

► **2020 chemical sales:** \$3.0 billion

In a diversification move, the styrenic polymer maker purchased Arkema's polymethyl methacrylate business for about \$1.4 billion earlier this month. The Arkema business has acrylic resin sales of more than \$600 million annually. Trinseo



NEW LABOPORT® VACUUM PUMPS

Next-generation oil-free diaphragm pumps improve everyday lab practices

- Integrated speed control
- Exceptionally small footprint
- 3-color status display
- Oil-free, chemically resistant

New LABOPORT vacuum pumps offer versatility for a variety of laboratory applications, including: rotary evaporation, degassing, filtration, SPE, fluid aspiration, gel drying, centrifugal concentration, vacuum ovens, and more.

Learn more at knf.com/en/us/laboport





CF Industries is installing electrolyzers for green hydrogen and ammonia production at its Donaldsonville, Louisiana, complex.

says the move follows a portfolio review that recommended acrylic resins as an attractive “adjacent chemistry” to its core business in styrenics such as acrylonitrile-butadiene-styrene resin. As part of the review, Trinseo plans to divest its synthetic rubber business.

23 H.B. Fuller

► **2020 chemical sales:** \$2.8 billion
H.B. Fuller made a transformational deal in 2017 with its \$1.6 billion acquisition

of Royal Adhesives. Then, in 2019, it sold its surfactant, thickener, and dispersant business in Dalton, Georgia, to Tiarco for \$71 million. In another move in adhesives, Fuller partnered last October with Gorilla Glue to launch 19 professional-grade products sold under the Gorilla brand.

24 Tronox

► **2020 chemical sales:** \$2.8 billion
Jeffrey N. Quinn, Tronox’s CEO since 2017, stepped down in January after it was

alleged that in 2016 he had fed insider information to a friend about a potential takeover of Ferro, where Quinn was a director. Tronox, which wasn’t implicated in the affair, named longtime executives John D. Romano and Jean-François Turgeon co-CEOs.

25 Cabot

► **2020 chemical sales:** \$2.6 billion
The carbon black maker made a high-tech investment last year, buying the world’s second-largest carbon nanotube maker, Shenzhen Sanshun Nano New Materials, in a \$115 million deal. The Chinese firm has annual sales of \$28 million. Cabot sees an opportunity for carbon nanotubes in energy storage and forecasts 20% annual growth. It will combine Sanshun with the carbon black and nanostructured materials it sells to this market. ■

**More
online**

For an interactive presentation of these data as well as 25 more company capsules, visit cenm.ag/top50chem2020

You can apply for \$2,000 per month in disability coverage for under \$10.¹

When we hear the word “disability,” we often think of tragic—but unlikely—accidents. But in reality, the top causes of disabilities include cancer, back disorders, injuries, and cardiovascular disease.²



The American Chemical Society’s Group Disability Income Insurance can help protect your livelihood with these features:



Up to \$10,000 per month in benefits



Ability to serve as primary coverage or as a supplement to existing employer-provided coverage



Portability, giving you the freedom to change jobs without losing your policy³

LEARN MORE AT: **ACSplans.com/DI-Today**

ACS Member Insurance
Protecting Life’s Elements

The complete description of the ACS Group Disability Income Insurance plan is contained in the Certificates of Insurance, including features, costs, eligibility, renewability, limitations, and exclusions. The product is underwritten by New York Life Insurance Company, 51 Madison Avenue, New York, NY 10010, under Group Policy GMR-G-29201/FACE. Brokered and serviced by Pearl Insurance Group, LLC, Peoria, IL.

¹The monthly premium estimate shown is based on the long-term plan with a 90-day waiting period and 35% premium credit applied for healthy individuals under age 40. This rate does not include the cost of living benefit. Your rate may vary based on age, health, and other factors. Premium credits are not guaranteed and may vary year-to-year based on claims experience.

²“Top Causes of Disability 2019.” Unum, May 2019.

³As long as you pay premiums when due, maintain your ACS membership, and the Group Policy remains in force. This marketing material is not intended for use in NM.

Program Administrator’s licenses: **Arkansas Insurance License #1322, California Insurance License #0F76076**

211101-ACS-DI-PAD