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NEW YEAR HONOURS	(P. 6)
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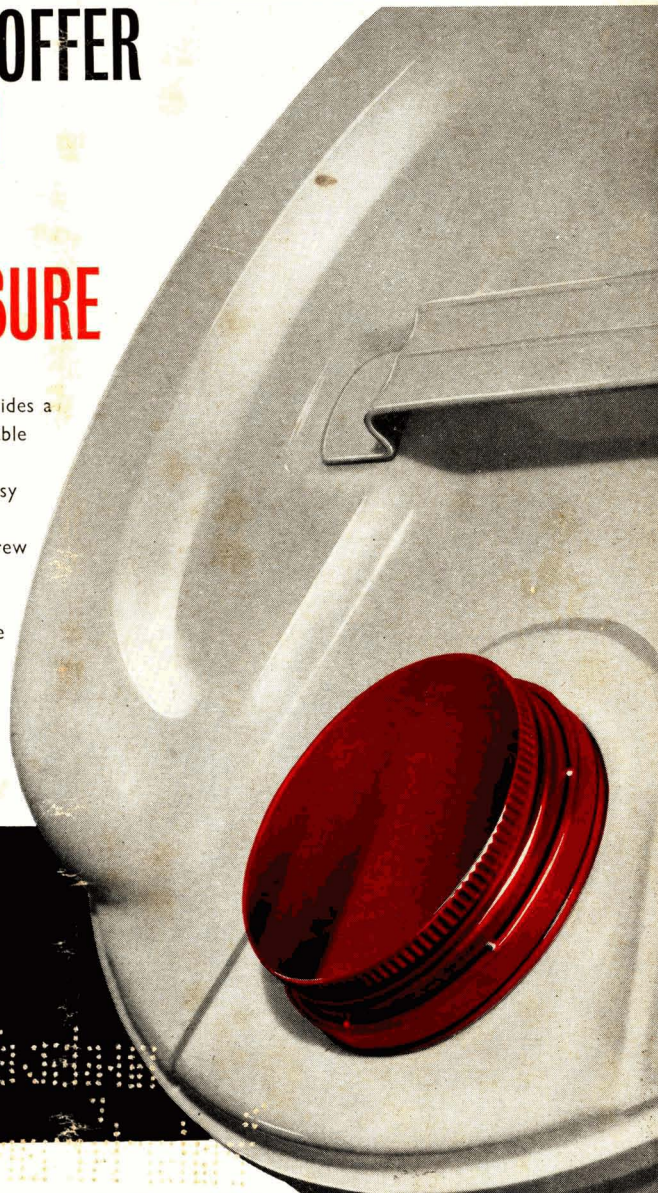
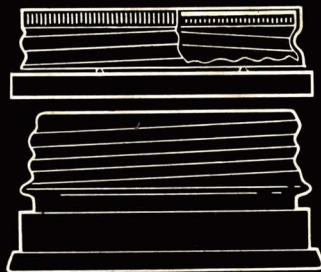
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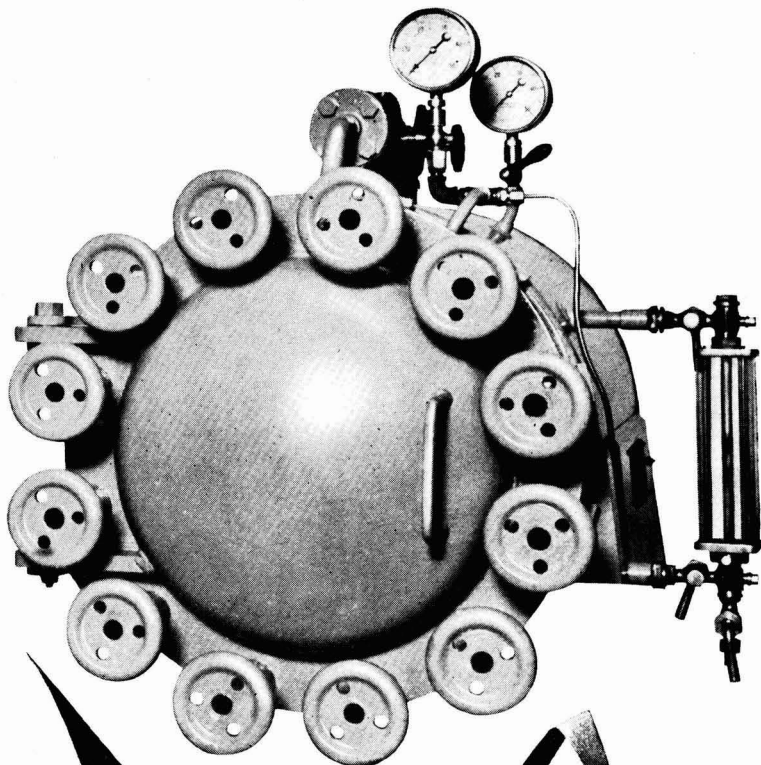
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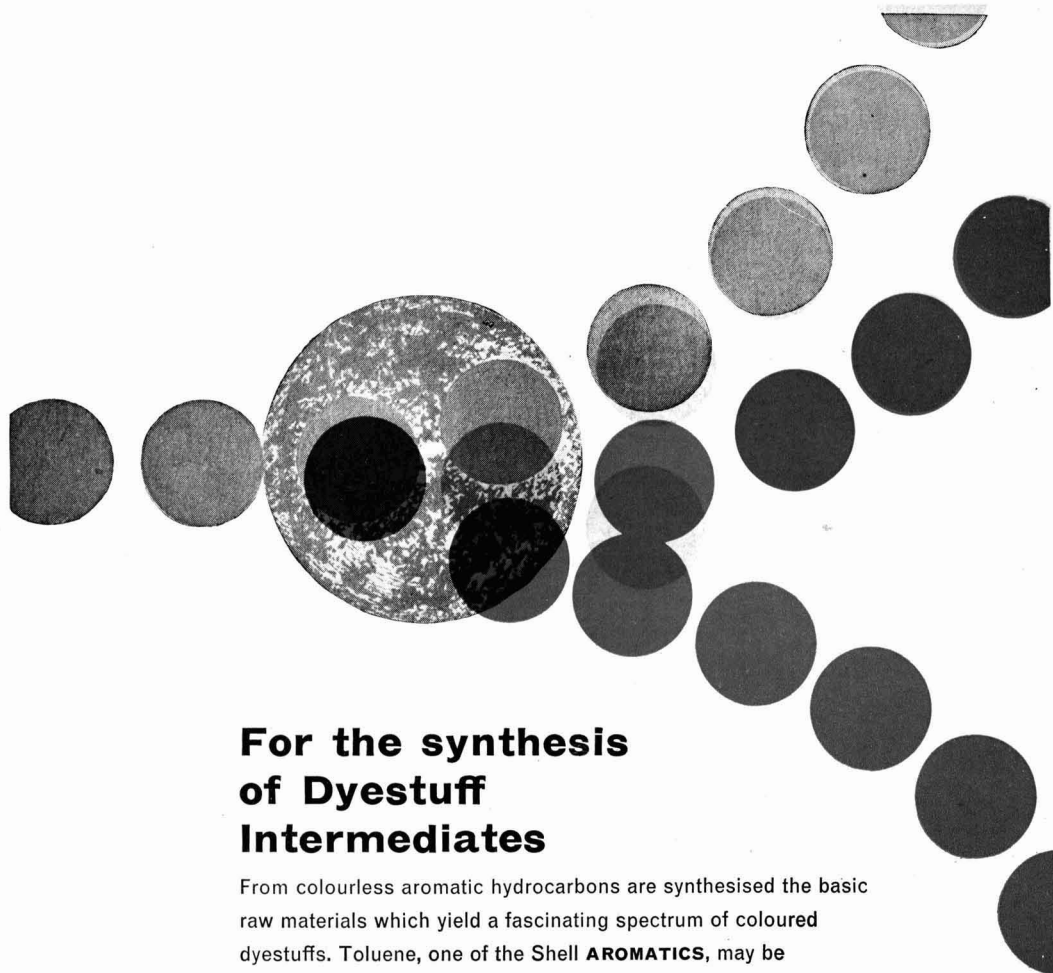
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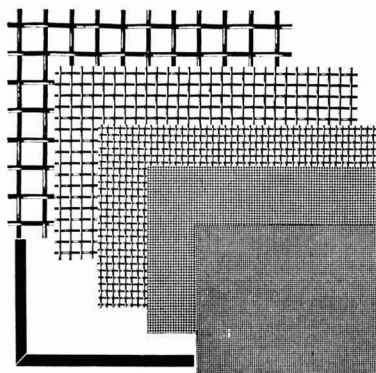
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Acetophenone	Fluoroacetic acid	Phenol phthalein
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No. 2217

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GERMANY'S PROBLEMS

WITH increased costs and reduced profit margins, complaints of dumping and speculation about the chemical industry's prospects in the event of the U.K. entering the Common Market, 1961 could not be described as an easy year, but the U.K. has not been alone in facing such problems. According to a statement issued by the Association of the German Chemical Industry, Federal Germany showed a turnover only 4 to 5% higher than that for 1960 compared with an increase of some 12% for 1960 over 1959. While turnover in 1960 stood at around DM 23,200 million, it is expected to top the DM 24,000 million for the first time in 1961.

Despite the decreased rate of expansion, however, development of the chemical industry is still above the overall industrial level in West Germany, production index having risen by 7% by October compared with a general increase of 6.7% for the whole of the country's industry. Average price index for the chemical industry in 1961 was only 4 points above the 1950 level, no less than 24 points behind industry as a whole.

The association states that price trends in some branches were alarming. Due to increased competition which among other things led to dumping-character undercutting from the U.S., a definite decline of prices had come about for some polymer plastics and recently also for certain solvents.

Both turnover and order receipts pulled up well during the latter part of the year as compared with the first nine months taken as a whole. Business in fertilisers, inorganic and organic chemicals livened up during the past few months. The 1961 trend of expansion in the field of plastics has noticeably slowed down, but new raw materials and semi-products have been an aid to further chemical expansion. Paints and lacquer production was above average, profiting from the continuing boom in building and capital goods.

Federal German chemical exports are expected to total some DM 6,500 million as against a 1960 level of some DM 6,200 million, or a rise of 5 to 6% over the year, compared with an increase of 14% for 1960 over 1959. Reason given is increased international competition, lower prices and revaluation in March, 1961.

Exports of inorganic and organic industrial chemicals and of nitrogenous fertilisers will have been below 1960 levels, while synthetic fibre exports stagnated. At the same time exports rose over 1960 levels for pharmaceutical products, plastics, photochemicals and dyestuffs. Over the first three quarters of 1961, West German chemical exports to other Common Market countries rose by 6.5% on the corresponding 1960 period, those to E.F.T.A. countries rising by under 2%. A particular rise in exports was noted for South America.

Due to a sharp fall in purchases overseas of chemical raw materials, Federal German chemical imports fell from DM 2,020 million over January-September, 1960, to DM 1,980 million for the corresponding 1961 period. Imports from fellow-members of the Common Market rose over the period by 15%, those from E.F.T.A. countries dropping by 6%, while imports from the U.S. fell off by 13%, this latter fall also being due mainly to

(Continued on page 12)

New Year Honours



Sir H. Jephcott
(Baronet)



W. K. Hutchison
(Knight)



Dr. A. Key
(C.B.E.)



Dr. A. J. Amos
(O.B.E.)

Awards for secretaries of R.I.C and A.B.C.M.

INDUSTRIAL chemistry figures prominently in the New Year Honours, with awards to Sir Harry Jephcott (Baronet), W. K. Hutchison (Knight Bachelor), A. Key (C.B.E.), A. J. Amos, H. J. T. Ellingham (O.B.E.) and A. J. Holden (M.B.E.).

The following is an extract from the list:

BARONET

Jephcott, Sir Harry, lately chairman, Council for Scientific and Industrial Research, and chairman of Glaxo Group Ltd. Sir Harry is also a past chairman of the Association of British Chemical Manufacturers and a past president, Royal Institute of Chemistry. He joined Glaxo as their first chemist in 1919, becoming general manager in 1925, managing director in 1935 and chairman in 1945.

KNIGHTS BACHELOR

Bagrit, Leon, chairman of Elliott Brothers (London) Ltd.

Hutchison, William Kenneth, C.B.E., deputy chairman of the Gas Council and immediate past president of the Institution of Chemical Engineers. Mr. Hutchison was controller of by-products of the former Gas Light and Coke Co. Ltd. from 1945 to 1947 and served as managing director in 1947 and 1948, becoming chairman of the South Eastern Gas Board when the gas industry was nationalised in 1948.

C.B.

Perren, Dr. E. A., lately director of the Chemical Defence Experimental Establishment, War Office.

K.B.E.

Kipping, Sir Norman Victor, director general, Federation of British Industries.

C.B.E.

Barnes, J. M., director, Toxicity Research Unit, Medical Research Council.
Barrell, H., superintendent, Standards Division, D.S.I.R. National Physical Laboratory.

Glover, J. C., lately advisor to the Ministry of Agriculture on oils and fats.

Key, Dr. A., Senior Chemical Inspector, Ministry of Housing and Local Government, and a leading authority on trade effluents and sewage. A member of the Standing Technical Committee on Synthetic Detergents. Dr. Key is a past president of both the Institute of Sewage Purification and the Society for Water Treatment and Examination.

Stewart, Dr. A. B., director, Macaulay Institute for Soil Research, Aberdeen. Dr. Stewart is a Fellow of the Royal Institute of Chemistry.

O.B.E.

Amos, Dr. A. J., partner in Drs. Kent-Jones and Amos, analytical and consulting chemists. Dr. Amos, who is president of the Society for Analytical Chemistry, and an acknowledged authority on the analysis of foodstuffs, is a Fellow, R.I.C.

Ashley, E. L., chief construction engineer (works and buildings), Risley, U.K. Atomic Energy Authority.

Awbery, J. H., lately senior principal scientific officer, Ministry of Defence.

Banfield, Dr. F. H., lately director of research, British Food Manufacturing Industries Research Association.

Ellingham, Dr. H. J. T., O.B.E., who has been secretary of the Royal Institute of Chemistry since 1945 and secretary and registrar since 1945, is due to retire from office towards the end of 1962. Dr. Ellingham was previously for 25 years on the staff of the Chemistry Department, Imperial College, latterly as Reader in Physical Chemistry; he was



Dr. H. J. T. Ellingham
(O.B.E.)



S. H. Elliott
(M.B.E.)

acting secretary of the college in 1940-41 and became a Fellow of Imperial College in 1949. Before joining R.I.C. he had been an honorary secretary of the Chemical Society and of the Society of Chemical Industry, and thus had a special concern with the principal societies and institutions in the chemical field. Dr. Ellingham has been hon. treasurer and a vice-president of the Parliamentary and Scientific Committee.

Horton-Smith, C., senior principal scientific officer, Houghton Poultry Research Station, Huntingdon.

Lovern, Dr. J. A., senior principal scientific officer, D.S.I.R. Torry Research Station, and a Fellow, R.I.C.

Matthews, J., sales director, the A.P.V. Company Ltd.

Pilgrim, R., head of safety co-ordination, Weapons Group, Weapons Research Establishment, U.K. Atomic Energy Authority.

Sims, G. V., director, Council of British Manufacturers of Petroleum Equipment, London.

Store, L. V., superintendent, Royal Ordnance Factory, Llanishen, Cardiff, Ministry of Aviation.

Waloff, Miss Zinaida, principal scientific officer, Anti-Locust Research Centre.

M.B.E.

Bertram, Miss Theodora, clerical officer, D.S.I.R. Tropical Products Institute, London.

Binyon, H. D., sales director, Solartron Electronic Group Ltd.

Busbridge, W. G., head of industrial liaison, Isotope Research Division, Harwell, U.K. Atomic Energy Authority.

Dawes, B. H., service manager, Steel and Co. Ltd., Sunderland.

Elliott, Stanley H., chairman and managing director, H. J. Elliott Ltd., makers of E-Mil scientific glassware, Treforest, Glam.

Holden, A. J., general secretary, Association of British Chemical Manufacturers, who has been a Fellow of the R.I.C. since 1935. In 1923, Mr. Holden served with Mr. Davidson Pratt, superintendent at the Chemical Defence Research Department, War Office. He rejoined Mr. Pratt, then general manager, A.B.C.M., in 1928 and in 1940 became secretary, British Colour Makers' Association, and joint assistant secretary, A.B.C.M. In 1945, Mr. Holden became joint manager, in 1948 manager and in June 1958 general secretary of A.B.C.M. In his work with the Association, Mr. Holden has played a prominent part in the organisation of safety matters.

Park, Miss B. P., hon. secretary, London Industrial Safety Committee (Central Metropolitan Group).

Tappenden, W. H., manager, drawing offices, Armament Research and Development Establishment, War Office.

Winter, Mrs. B., lately clerical officer, Explosives Research and Development Establishment, Waltham Abbey, Ministry of Aviation.

B.E.M.

George, W. T., fire marshal, Fawley Refinery, Esso Petroleum Co. Ltd.

Hornby, O. O. process worker, Imperial Chemical Industries Ltd.

Project News

Power-Gas catalytic oil gas plants for Europe, Far East

CURRENT trend towards the use of liquid and gaseous hydrocarbon feedstocks for the production of town's gas in many parts of the world is emphasised by several new contracts for gas making plant which have been placed with the **Power-Gas Corporation Ltd.**, Stockton-on-Tees—a member of the Davy Ashmore Group. These contracts, which have an aggregate value of around £1.25 million are as follows.

For the **Hong Kong and China Gas Co.**, Power-Gas will build two further units as an extension to a Segas catalytic oil gas installation in the Ma Tau Kok gasworks, Kowloon, Hong Kong. The original Segas plant, consisting of two 750,000 cu. ft./day units, was installed in 1958; the new extensions will be commissioned in 1962. The feedstock is to be a heavy fuel oil and each of the new units will have an output of 2 million cu. ft./day of town gas. A 1 million cu. ft. Wiggins dry seal gasholder will be supplied to the same gasworks.

The first of two installations to be built in Sweden is for a large synthesis works, to be completed by mid-1962; the second is a Segas catalytic oil gasification plant comprising two units each with a capacity of 2 million cu. ft./day of town gas with a calorific value of 4,300 Kcals/Nm³ when gasifying heavy fuel oil. The plant, ordered for the **Gothenburg Gasworks**, will be commissioned early in 1962. Equipment for it will be manufactured partly in the U.K. and partly in Sweden.

In Germany, the Power-Gas licensees **Didier-Werke AG** are to construct four units for Segas cyclic catalytic oil gasification plant for **Salzgitter**. Each unit will have an output of 4 million cu. ft./day of town gas using a heavy fuel oil feedstock; the addition of light gasoline vapours during the gasification of the fuel is expected to raise the capacity

about 30%. This plant will go into service early in 1963.

At the **Saibu Gas Co.**'s works at Sasebo, Japan, Power-Gas licensees are shortly commissioning a plant, the order for which was received seven months ago. This plant is a cyclic catalytic oil gasification unit of the Uniflow design gasifying a light naphtha feedstock and will have a capacity of 570,000 cu. ft./day, with a calorific value of 4,800 Kcals/Nm³.

Specialised oils manufacture for Australia

● AN agreement between **Amber Chemical Industries Ltd.**, 11a Albemarle Street, London W.1, and **Ampol Petroleum Ltd.**, of Australia allows for the manufacture and sale in Australia of the products of **D.A. Stuart Oil Co.** of Chicago which are manufactured and marketed in the U.K. by **D.A. Stuart Oil Co. (G.B.) Ltd.** The agreement covers the very wide range of specialised cutting oils, cutting and grinding fluids, drawing oils and industrial detergents produced here by the last-named company, which is a wholly-owned subsidiary of Amber Chemical Industries. The agreement is for seven years, is renewable and begins immediately. All the technical knowledge and experience of the British company will be at the disposal of Ampol Petroleum.

Boake Roberts double synthetic aromatics capacity

● DOUBLING of production of standard aromatics from pinene is announced by **A. Boake, Roberts and Co. Ltd.**, while the range of products has been extended to include high purity geraniol and

citronellol, a second grade of Linalol (Linalol Standard 'A') and the acetates of geraniol, citronellol and neral.

At the same time, most prices have been reduced; the company points out that, despite the rise in citronella and lemongrass casts during recent months, it has been able to ignore market fluctuations and show some improvement on the original prices. This trend is expected to continue over the next five years as new products are added to the range and progressively produced in volume.

The works of Boake Roberts, who are a member of the Albright and Wilson Group, are at Stratford, London E.15.

New nitric acid plant for I.C.I. Heysham

● A MODERN and somewhat extended nitric acid plant is soon to be built at the Heysham Works of **I.C.I. Billingham Division** to supply the nitro-chalk 21 fertiliser plant, which in 1961 marked up a record output.

First of the new plants to produce synthesis gas from oil at Heysham began commissioning trials early in December. When the second similar unit starts operating early this year, the whole of the Heysham plant producing synthesis gas from coke will have been replaced by the modern process based on oil.

The 45,000 tons/year extension to the Heysham methanol plant is due on stream during 1962.

Another of the Billingham Division's external factories, the catalyst plant at Clitheroe, is also under development. Towards the end of 1961, work started on the installation of additional plant items to permit still higher production.

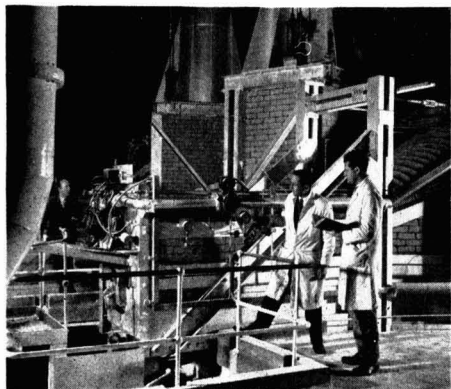
New Vermiculite research premises for Mandoval

New premises for the research and development unit of Mandoval Ltd., vermiculite distributors (a company under the management of the Rio Tinto Mining Group) have been acquired at Godalming, Surrey. With as little disruption as possible of current work, the unit will move in the first few months of 1962 from the old premises at Balham which it has occupied since 1953 to its new home beside the River Wey off Cateshall Lane, Godalming.

The new premises, using modified existing buildings and new constructions, will include physics and chemistry laboratories, photographic dark room, preparation rooms, pilot exfoliation plant and space for field trials, fire demonstrations, etc. Full occupation is planned by late spring.

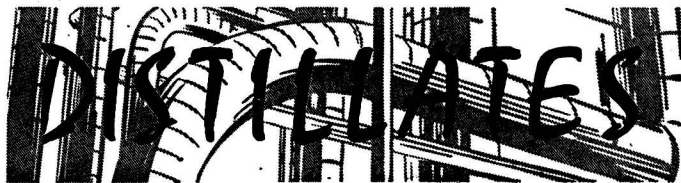
Cancelled orders lead to Simon-Carves redundancies

A decline in capital investment and cancelled orders have led Simon-Carves Ltd., Cheadle Heath, one of the Simon Engineering Group, to declare 46 draughtsmen and nine clerks redundant.



ALBRIGHT'S NEW CALGON PLANT

Part of the new plant of **Albright and Wilson (Mfg.) Ltd.** at Kirkby, described in C.A. last week (p. 1019) for the manufacture of Calgon water softener and scale and corrosion preventative. Two furnaces have been installed, leaving space for a third to be added in the future



★ BIG companies are expected to make 'big' news and I.C.I. are no exception. Following the premature disclosure of their bid for control of Courtaulds Ltd., came the news just after Christmas that Commander L. J. Burt, formerly head of Scotland Yard's Special Branch and a war-time spy-catcher for M.I.5, had been retained to investigate the 'leak'.

Commander Burt's services have been enlisted by William Charles Crocker, solicitors, called in by I.C.I. and Courtaulds to investigate the 'leak' of the merger discussions. He will have a free hand to question staff of both companies and has in fact already started his enquiries.

National newspapers were telephoned by a 'hoaxer' taking the name of Mr. Geoffrey Richards, I.C.I.'s Press officer, inviting them to a Press conference on I.C.I. and the Common Market at the home of Mr. Chambers in north-west London. The conference was to be held on Sunday, 17 November; the news became public in the *Daily Mail* on 18 November and later that day Mr. Chambers felt duty-bound to call a Press conference to put the facts to the shareholders of the two companies.

This was one of the biggest stories in the history of the chemical industry revealed.

★ A YEAR that is unlikely to be one of booming growth, but one which will be the most prosperous ever, is how 1962 is expected to shape for U.S. chemical manufacturers, according to a survey published in the latest issue of *Chem. and Engg. News*.

The steady rise in chemical sales and output that has been underway since the latter half of 1961 is likely to carry forward into 1962. The value of the industry's sales rose 7 to 8% to some \$30,000 million in 1961 and in 1962 should be \$32,000 million or a little higher. Production was up by about 5% in 1961 and, barring unforeseen circumstances, is expected to rise a further 8 to 10% in 1962. Organics should rise by about 8%, plastics and resins, 12%, industrial gases some 17%, synthetic fibres, 6%, and synthetic rubbers by about 7%.

Prices do not show such a rosy picture. The Bureau of Labor Statistics' wholesale price index for chemical and allied products averaged about 1% lower than in 1960. The index is now about 2% under the figure of a year ago. The industry probably earned a little more in 1961 than in 1960 but profit margins sank, and net income did not match

the record of 1959. However, rising output will bolster efficiency as the industry puts more of its unused capacity into operation, which should give an upward swing to profits in 1962. They are likely to rise by 15% to a record level.

Excess capacity remains a problem in the industry, amounting to an average of 25% for many major chemical products, and is likely to continue to be so. Research and development expenditure in 1962 will be near \$1,500 million.

★ ONE of Britain's most depressed trades in recent years, largely due to the major inroads made by synthetics into the market for sole leather, has in the past few years also faced the gloomy forecast that synthetic material might capture part of the upper leather trade.

By 1963 Du Pont should go into commercial production with a new and undisclosed material. They have recently started pilot plant production at Newburgh, N.Y., and their material has been tested by the U.S. Services. Du Pont have so far kept the composition of their material a close secret.

It is believed in shoe industry circles that this is nylon, modified to give it air-permeability, the ability to 'breathe' by which the leather industry set such high store. In any event, the material is claimed to be virtually indestructible and if a commercial success could hit those firms that specialise in supplying chemical products for the leather industry.

★ A TRULY 'striking' career might be an apt description for the 50 years' service that Mr. Albert V. Hood has rendered to the British safety match industry, nominally ended by his retirement on 1 January as chief chemist of Bryant and May Ltd. (see 'People in the News') though he will continue to serve Bryant and May by representing them on the boards of Octavius Hunt and James Pain and Sons. Mr. Hood has seen many improvements in matches since the days of the old-fashioned 'lucifer' and he himself introduced plastics into the industry, mainly in the form of synthetic resin adhesives for box making. He also introduced methods of quality control into the making and application of match-head composition.

However, his constant, painstaking research has by no means been confined to giving us a smooth, safe light, for apart from his hush-hush work on muni-

tions during the last war he developed innumerable applications for hot-press blocking foils—originally used by book-binders and for labelling some other products—these being a speciality of the Peerless Gold Leaf Co. Ltd., whom Mr. Hood joined in 1935, becoming a director in 1950. His success in this field is a tribute to the versatility and enthusiasm of a chemist whose primary job has been 'playing with fire'.

★ DURING a repeat programme of extending the nylon works cooling tower system, construction engineers at I.C.I. Wilton Works were faced with the problem of how to connect a 42-in. diameter extension to a 60-in. water main, without cutting off the supply and bringing the whole nylon works to a standstill.

The work involved making one of the biggest connections ever made under pressure. The existing 60 in. cooling water main ended at a blank flange and to make an 'under-pressure' connection entailed attaching a 42-in. diameter stop valve and cutting machine to the 3-in. thick blank flange, cutting out a 41-in. by 3-in. thick steel disc and withdrawing the cutters and disc through the valve, which was then closed. The cutting machine was removed leaving the main ready for extending from the closed valve.

The 4-ton valve had to be attached to the blank flange with a 52½-in. by ¾-in. thick steel ring with 28 studs welded to it. The assembly was welded to the blank flange, care being taken to avoid any distortion which would have made it impossible to make a joint. A shock load had to be avoided on the valve and joints when the cutters broke through into the 60-in. main which contained water at 60 p.s.i. This was overcome by filling the valve and cutting machine with water, having an open vent on the machine and reducing the feed when breaking through.

It all sounds simple on paper, yet the whole operation was carried out in an excavation 10 ft. deep and measuring some 14 ft. by 8 ft.

★ THE Microbiology Group of the Society of Chemical Industry are to hold a joint meeting with the Society of Applied Bacteriology on 10 January 1962 at 2.15 p.m. at the Barnes Hall, Royal Society of Medicine, Wimpole Street, London, W.1. The subject of the meeting is the effect of the newer forms of packaging on the microbiology and the storage life of various foods—an interesting theme that should attract a large attendance.

Alembic

I.C.I.'s year at Tees-side plants

MAJOR UPSURGE IN CONSUMER GOODS NEEDED TO BOOST PLASTICS OUTPUT

THE plastics industry at the end of 1961 was one of large world surpluses, particularly of polythene, and a price war that was "really vicious". This is stated by Mr. A. Burness, plastics works manager at I.C.I. Wilton Works, in the works' newspaper.

The situation was aggravated by the fall in the British consumer market, particularly for cars, and a lowering in demand for TV sets and refrigerators. Customers had run down their stocks and now ordered on lower levels without any rebuilding of stocks. Mr. Burness saw no change in the position until the consumer industries showed a major upsurge.

The No. 1 polypropylene plant had been steadily improving in efficiency and output. The Bukaton plant continued to raise output and efficiency and entered 1962 with far away its highest levels in both. Order prospects were brighter in Perspex towards the end of 1961. For the first time competitive Perspex sheet was being regularly sold in the U.K. and other firms had plans to produce in Britain.

Mr. Burness expected 1962 to show a further increase in competition, both in price and quality.

Dr. G. Collin, nylon works manager, said that the new, fourth, nylon plant had been started up without affecting production flow or the quality of product from the old plant. The Wilton make of polymer was increased by nearly 50% over 1960.

Phthalic anhydride

The phthalic anhydride plant had steadily increased its output; technically the plant was in good shape and output would have been considerably bettered had sales demand not slackened in the last quarter of the year. It was expected that phthalic production this year would be well in excess of 1961.

Lissapol and α -naphthylamine had been working at about the same level as 1960, but the new rubber chemical, Nonox ZA, being made in spare α -naphthylamine plant capacity until production could be transferred to new plant at Burn Hall, had a record year with output nearly 100% up on 1960.

Transfer of this production, as well as that of glycol packing to Severnside when the new ethylene oxide plant is started up there, would leave gaps in the nylon north works which it was hoped to fill with "new and interesting development manufactures".

Another considerable nylon expansion was under construction and due to start up in mid-1962. There was no reason

why the full new potential of the north-east coast nylon plants should not be fully absorbed by British Nylon Spinners by the end of 1962.

HIGHLIGHTS AT WILTON WORKS

- Nylon polymer make up nearly 50%, with another big expansion due on stream by mid-1962
- Phthalic output would have been higher but for falling demand. 1962 output should be well up on 1961
- Production of new rubber chemical, Nonox ZA, rose nearly 100%
- Terylene sales did not reach forecast levels, but were up on 1961
- Olefin capacity increased during 1961
- Output of chlorine and caustic was again a record

Although sales demand for Terylene products during 1961 did not quite reach initial forecasts, sales were appreciably higher compared with 1960, said Dr. J. Y. Baxter, Terylene works manager. A notable feature had been strengthening of sales to Europe and other overseas territories where greater competition and lower prices had to be met.

Production capacity was fully extended in the early part of the year, but this was followed by uncertainty and it was necessary to regulate output from the staple fibre section. Towards the end of 1961, however, demand for staple fibre products recovered to an extent when it was again necessary to take up all available spinning capacity.

Commissioning of new intermediate plants was in hand throughout the year, and while difficulties were experienced on the terephthalic acid plant, longer periods of continuous operation were possible during the last quarter. Further efforts will be made to achieve flowsheet capacity.

There was an improvement in the efficiency and productivity for the conversion of polymer into filament yarn. There was a noticeable swing away from batch-made products which are sold in bales. As a result, a stage-wise conversion of the original batch processing lines to continuous operation had been

undertaken. Increasing interest could be expected from the cotton trade.

Commissioning of the first major polypropylene spinning and drawing unit will start early in 1962 and increasing quantities of Ulstron yarns will be made.

Production on the three olefin plants was below capacity in the first half of 1961. Higher sales by Plastics Division, however, had enabled increased production rates to be achieved in the second half of the year. Efforts were directed to raising operating efficiencies and cutting production costs, stated Mr. F. Wrigley, olefin works manager.

The para-xylene plant had good periods at the beginning and end of the year. A reasonable butadiene year was marked by a special effort towards the end of 1961 to overcome successfully some operating difficulties.

The polythene order position was extremely healthy, following some surplus capacity in the first half of 1961, declared Mr. L. P. Bayly, polythene works manager. Sales began to pick up by July. Prices remained very low, particularly in export markets, on account of U.S. dumping. This, however, had led to a much better understanding throughout the works of the commercial aspects. As a result much activity had been directed to raising efficiency and cutting costs.

Training of licensees continued and parties from Italy and Denmark spent periods at Wilton.

Peak output

As in 1960, the cell room has operated at peak output for most of the year and output of chlorine and caustic soda was again a record. This is stated by Dr. H. R. Hailes, manager of Cassel and Bain works. A similar high level of activity is expected in 1962, but at present there is little prospect of expansion.

Sales of titanium were increasing and the rate at which the stock of raw metal was decreasing suggested that by the end of 1962 there should be a more definite indication of the future of the titanium plant.

Writing in *The Billingham Post*, Dr. C. J. Bridger, manager of the Billingham Division's external factories, says that in the latter part of the year, maximum output was not required. The fall in output was only a small fraction of total capacity, but it did mean that record annual makes were not achieved at most of the factories.

Heysham reached high rates or production of all products until late autumn, when easing down was required to start making the changeover to the modernised and extended plants that have been under construction since 1960 (see also 'Project News').

Mossend ran at full rate until late summer when demand for its ammonia began to fall. Output of ammonia at Prudhoe was a record and a very high output of sulphate was also achieved in spite of major construction jobs on two evaporators.

Main reason for lower activity at Cassel Works, says Dr. H. R. Hailes, manager, was the shutdown of the acry-

(Continued on page 16)

Du Pont's first Delrin licence goes to Japanese associate

FIRST licensing arrangement for production of their Delrin acetal resin has been awarded by E. I. du Pont de Nemours to a Japanese company owned on a 50-50 basis by Du Pont and Showa Denko.

Many other companies in Japan and elsewhere have been anxious to obtain such a licence. Showa Neoprene thus have a strong advantage in the race to commercialise this newest engineering plastics, said to be lighter than aluminium but tougher than steel.

Du Pont make Delrin in the U.S. and are constructing finishing facilities in the Netherlands to process imported material for the European market.

Du Pont are said to hold composition of matter patents on acetal resin. Of the Japanese companies which have been negotiating Delrin know-how with Du Pont, Showa Neoprene had a strong advantage in that they were already jointly owned by Du Pont. The U.S. company was not willing to license the process to companies in which it held no interest and in view of official Japanese policy, permission to start a new joint company was unlikely. How-

ever, Du Pont also have an interest in Mitsui Polychemicals with Mitsui Petrochemical. The Mitsui venture makes high pressure polythene.

Terms of the agreement with Showa Neoprene are still under discussion. Other Japanese firms intend to proceed with their plans to produce acetal resin, but it is likely that such action would lead to infringement of patent actions.

Nippon Shokubai Kagaku Kogyo, Toyo Rayon and Toyo Koatsu plan to go into commercial production using their own techniques. Du Pont have already made official protest against the patent of Nippon Shokubai (36-16742), who are now building pilot plant. The Japanese company claim that its process is unique and independent of Du Pont's patent.

Dainippon Celluloid are negotiating for an acetal resin licence with the Celanese Corporation of America, the only other U.S. producers of this polyformaldehyde. Our U.S. correspondent advises us, however, that the view is widely held in American polymer circles that Du Pont are likely to contest the validity of the Celanese process.

New import duty order exempts *o*-xylene, isophthalic, etc.

THE Treasury have made The Import Duties (Temporary Exemptions) (No. 9) Order, 1961, which lists all goods (mainly chemicals) temporarily exempt from import duty on 1 January 1962. In most cases, the goods will remain exempt from import duty until 1 January 1963, unless some other date is specified in the Order.

Included in the list are the following chemicals: radioactive chemical elements and radioactive isotopes, lithium borohydride, cyclopentane, cyclopentene, isoprene, *o*-xylene, *m*-xylene, bromotrifluoromethane, bromotrifluoroethylene, bromotrifluoromethane, fluorobenzene, allyl alcohol, aldrin, dieldrin, epoxybutane, chloroacetic acid, chloroacetic anhydride, propionic acetate (until 1 April), sorbic acid (until 1 April), dimethyl maleate, naphthalic anhydride, isophthalic acid, acrylamide, acrylonitrile, Salk polio vaccine (until 1 April), activated carbon not of animal origin, certain anti-knock preparations, catalysts containing silver dispersed with alumina, or with alumina and silica, or with aluminium silicate, carboxymethylcellulose (aluminium salt), cellulose acetate, etc.

The Order has been published as Statutory Instruments 1961, No. 2398, obtainable from H.M. Stationery Office, price 2s 6d.

Courtaulds form joint glass fibre venture with United Merchants of the U.S.

A JOINT company, Spun Glass Ltd., has been formed by Courtaulds Ltd. and United Merchants and Manufacturers Inc., following the announcement made by the two companies in July last year that they were to engage in a joint venture for the manufacture in the U.K. of glass fibres and fabrics for industrial and decorative purposes. Directors of Spun Glass Ltd. are Mr. D. R. B. Mynors (chairman), Mr. A. W. Knight and Mr. J. H. McKeown of Courtaulds, and Mr. J. W. Schwab, Mr. Merwin R. Haskel and Mr. D. F. Tate of U.M.M.

Spun Glass Ltd. is acquiring from Frederick Marsden (Holdings) Ltd. the whole of the share capital of Marglass

Ltd., Sherborne, Dorset. In 1942 that firm, then silk weavers, was the first in this country to weave glass-fibre cloth on a commercial scale and has continued to hold a leading position in this industry. The directors are Mr. Frederick Marsden (chairman), Mr. P. F. Marsden and Mr. A. Scott. It is intended that this business shall continue to be operated under their management. Mr. Mynors and Mr. McKeown will be joining the board of Marglass Ltd. at an early date.

It is the intention of Spun Glass Ltd. to develop and enlarge the present activities of Marglass and in addition to produce glass yarn in a fully integrated business.

Du Pont raise price of polythene sold in Europe

LAATEST move in the European polythene market, scene of many allegations of dumping by U.S. companies, is an increase in prices by an average of about 10% on several types of polythene resin, by the Du Pont Company. Du Pont export to many European countries, including Belgium, Finland, Germany, Norway, and Sweden, as well as Israel, and most of Latin America.

In many countries polythene prices had been forced down to a point where they no longer covered the cost of manufacture and technical service to customers. Du Pont state they will continue their efforts to price this product in line with these costs.

Reilly Tar in joint European pyridine venture

Two new companies, one to manufacture chemicals and the other to sell them, are to be formed in Europe jointly by the U.S. concerns, Parke-Davis and Reilly Tar and Chemical. The venture involves an investment of more than \$3 million.

A plant, which will make both bulk and fine chemicals, including synthetic pyridine, picolines and cyanopyridines, is expected to be in production within 18 months to two years. A decision on the name and location of the new companies is expected shortly.

Kleemann become Mobil Chemicals Ltd.

A CHANGE of name to Mobil Chemicals Ltd. is announced by O. and M. Kleemann Ltd., West Halkin Street, London S.W.1, manufacturers of plastics raw materials and finished goods. The initial function of Mobil Chemicals will be the marketing of thermoplastic raw materials, including those grades of polystyrene, polythene and cellulose acetate previously marketed by Erinoid.

Erinoid, now a Mobil Chemicals sub-

siary, will continue its manufacturing and marketing operations covering profile extrusions, extruded sheet and casing. Also at its Stroud factory Erinoid will continue to manufacture the cellulose acetate and dry colourants which will now be marketed by Mobil Chemicals.

Directors of Mobil Chemicals are Derrick Kleeman (chairman), Harry Kleeman, E. Osborne, R. B. Madden and P. B. Unwin.

High yields of cyanogen from new continuous catalytic process

PPROMISE of an economical, continuous process for producing cyanogen by the catalytic, vapour-phase reaction of hydrogen cyanide with nitrogen peroxide is held out by experiments carried out at the research centre of the Pure Oil Co., Crystal Lake, Ill., U.S. An attractive feature of the process is that by-product nitric oxide can readily be oxidised to nitrogen peroxide and recycled.

Many synthetic methods of preparing cyanogen have been reported since Gay-Lussac first synthesised it by the thermal decomposition of silver cyanide; from a commercial point of view hydrogen cyanide is the preferred starting material because it is a large-scale product of the petrochemical industry. The new method of synthesis, described by W. L. Fierce and W. J. Sandner in *Ind. Eng. Chem.*, 1961, **53** (12), 985-7, is based on the reaction:



Fierce and Sandner report bench-scale experiments using apparatus constructed entirely of glass and Tygon tubing. Either nitrogen or helium, as a carrier gas, was bubbled through liquid hydrogen cyanide in a tube cooled by an ice-water bath. The gaseous mixture of hydrogen cyanide and carrier gas was blended with gaseous nitrogen peroxide and then directed to the reaction zone.

When lime glass beads were used as catalyst the cyanogen yields were much higher than in 'thermal' runs during which the reactor tube was empty, but the catalytic effect noted with lime glass beads was not observed when two other types of glass—lead and borosilicate—were tried, and the cyanogen yields were much lower. It was concluded that the soda, lime and magnesia present in lime

glass probably caused its catalytic effect on the oxidation.

A further series of runs was designed to test the catalytic activity of silver metal and compounds of sodium, calcium, magnesium, beryllium and zinc, and various results were obtained. Silver on an inert support was one catalyst that proved effective and although the conversions of hydrogen cyanide were lower than in comparable runs with sodium, calcium or magnesium-containing catalysts, the selectivity for cyanogen reached 94%. The results were a little better than those given by lime glass beads under similar conditions. The nitrogen oxide was completely consumed in runs with a magnesium-containing catalyst at 200-350°C.

Elimination of citrates in fertilisers facilitates determination of phosphorus

WITH the trend towards more rapid methods of analysis, the spectrophotometric molybdovanadate procedure for the determination of phosphorus in fertilisers on a commercial scale is arousing much interest. The method has been officially adopted in the U.K. and the U.S., but there is one factor which hinders the general adoption of the procedure, and that is the presence of citrate ion above a certain level interferes with the development of the colour. The logical way to remove such interference is to destroy the citrate.

Work undertaken to find the best way of destroying the citrate was described

Developments in vaporising extinguishing agents

HALOGENATED hydrocarbons and halo-carbons, in the form of chlorine- and bromine-containing compounds, have been used for many years as extinguishing agents for flammable liquid and electrical equipment fires. Recently, however, research has been directed towards the development of agents containing fluorine.

At present, four compounds show the greatest potential as extinguishing agents. They are bromotrifluoromethane, dibromodifluoromethane, bromochlorodifluoromethane and dibromotetrafluoroethane. Results of tests show that bromotrifluoromethane is the most effective of the compounds.

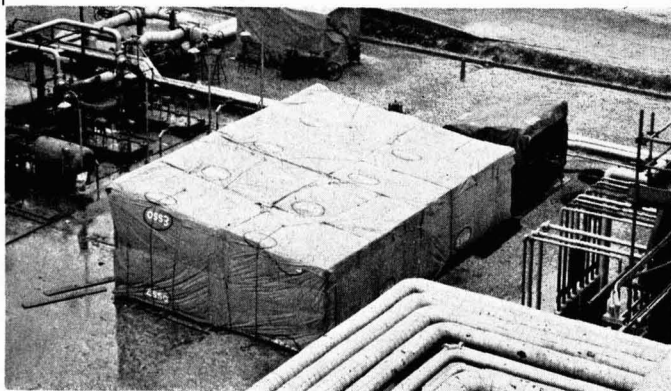
In addition to their greater effectiveness, another advantage claimed for these fluoro compounds is their low toxicity. Again bromotrifluoromethane makes the best showing in this respect.

by Sven-Eric Dahlgren, Research and Development Department, AB Forenade, Superfosfatfabriker, Sweden, at the Technical Meeting of the International Superphosphate Manufacturers' Association held at Wiesbaden. Existing methods for destroying citrates by wet ashing procedures were examined, but more detailed methods were needed to give reproducible amounts of mineral acids in the residue after destruction of the citrate. Different ways of removing interference by acid with development of colour were also investigated. The best way was found to be by partial neutralisation of the extra acid after the addition of the molybdovanadate reagent solution.

The procedure consists of adding 10 ml. of a mixture of nitric and perchloric acids (300 ml. 70% perchloric plus 700 ml. 1.40 nitric) to the citrate-bearing aliquot containing 4 to 6.5 mg. of P_2O_5 , together with 5 ml. of a 20% solution of sodium chlorate. The solution is warmed and then evaporated until fumes of perchloric acid are evolved. Water is added to the cooled solution which is then heated to hydrolyse non-orthophosphates. Molybdovanadate reagent is added and the excess acid neutralised with sodium hydroxide before the solution is made up in a standard flask.

In the determination of total P_2O_5 , further amounts of mineral acids are introduced when the aliquot is taken. For different kinds of material, different methods of digestion are used, and each method gives a certain acidity in the extract. In the acidity, the dilution and the size of the aliquot are known, the additional amount of acid can easily be determined. If there are more than 10 milli-equivalents in the aliquot, the solution must be partly neutralised.

Terylene covers protect refinery plant



Flame-proofed Terylene-cotton core spun tarpaulins made by William Smith (Poplar) Ltd. are being used at the Esso Fawley refinery to protect equipment during plant overhauls. Light weight and great flexibility is an important advantage when the shelters are continually being dismantled and re-erected

Petrochemical Prospects in the U.S.

Capital spending in U.S. petrochemicals may double in next 10 years

CAPITAL investment of the U.S. petrochemical industry may be of the order of \$12,000 million in 1970, compared with only just over half that figure in 1960. The investment in new facilities for the chemical side of the U.S. petroleum industry exceeded that for petroleum refining in 1958 and in each subsequent year, and further indications are that this situation will continue indefinitely.

These predictions are made by H. G. McGrath, sales executive with the M. W. Kellogg Co., U.S., and L. R. Hill, assistant to vice-president, sales, in a recent issue of the company's publication, the *Kelloggram*, under the title 'Refining or petrochemicals—which will win?' It is shown that the U.S. petrochemical industry's growth rate of 11.2% per year during the past five years far exceeds that of petroleum, which was 2.7%. During that period the natural gas industry has also forged ahead with a growth rate of 9% per year.

Production expansion

The survey shows that U.S. production of petrochemicals is likely to rise from 60,000 million lb. in 1960—when it represented 32% of the total production of all chemicals—to about 100,000 million lb. in 1965, or 38% of the estimated production of all chemicals of 265,000 million lb. By 1970, the percentage is estimated to rise to 41% with a production of 135,000 million lb. out of a total chemical output of 330,000 million. It is expected that final figures for 1961 will show petrochemical production, at about 65,000 million lb., to comprise 33% of the U.S. chemical production. The probable production of the different classes of petrochemical compounds in 1961 is expected to be: aliphatics, 43,000 million lb.; aromatics, 6,000 million; inorganics, 16,000 million lb. In recent years the average price per pound of the aliphatics was 15 cents, of aromatics 19 cents, and of inorganics 2.5 cents.

Dollar sales value of petrochemicals by 1970 is expected to amount to some 64% of that of all U.S. chemicals, based on the estimate that petrochemicals will attain a sales value of \$15,300 million against \$24,000 million for all chemicals. In 1965, a value of \$10,500 million is expected to bring petrochemicals to 61% of the all-chemicals sales value, a similar percentage having been recorded for 1960 when the dollar value of petrochemicals was 6,400 million out of a total of 10,400 million.

Capital investment of the U.S. petrochemical industry is currently estimated

to be \$6-7,000 million, and is believed to represent nearly 60% of the assets of the entire chemical industry. In 1940 the investment in the petrochemical industry was a mere \$315 million. The anticipated investment of about \$12,000 million in 1970, referred to above, is based on the rapid rate of increase in recent years.

Capital spending

For 1961, it is expected that the annual rate of capital spending for new equipment and plants in petroleum refining will prove to be about \$600 million and that it will increase to \$900 million by 1970. By that time, the annual rate of spending for new plants in the field of petrochemicals is expected to be \$1,400 million and will far exceed that for new oil refining plants. Capital investment and production have increased more than fourfold from 1940 to 1950 and between 1950 and 1960 the industry more than tripled. A high growth is expected to continue from 1960 to 1970. As the industry increases in size the growth rate declines but absolute growth is large. However, while it is both fast growing and profitable, it should be noted that the petrochemical industry is characterized by high investment per unit of production and rapid technological obsolescence.

Surveying the major 'building blocks' of the petrochemical industry, it is noted that U.S. production of methanol is now over 1,500 million lb./year and is growing, as is also ethylene which has a present annual production at a rate of 6,000 million lb./year. Ethylene, it is noted, now contributes to nearly twice as many chemicals and chemical intermediates as do both propylene and butylene. Outstanding among ethylene applications, polythene seems likely to reach a 2,000 million lb./year production rate unless some far superior materials are developed.

Sketching the more promising developments, the authors of the report point out that a huge market could develop for many basic intermediates of which only a few examples are 1,4-*trans*-polybutadiene fibre, *cis*-polybutadiene rubber, copolymers of ethylene and propylene, and isocyanate foams.

The variety of U.S. commercial enterprises with interests in petrochemicals is illustrated by the fact that gas pipeline operators, rubber processors, shipping companies, farm equipment manufacturers and dairy products companies are among those who have taken up strong positions in the field. The survey notes the active part played by the major oil

companies and states that those companies whose profit records are outstanding have either been in, or developed a strong position in foreign oil or petrochemicals, or both.

Statistical profit data on the petrochemical industry, as distinguished from the chemical industry, have sometimes been difficult to segregate; hence, the report shows figures comparing the net income per dollar of net worth for the chemical industry, petroleum, and all manufacturing operations, for the past 30 years, as follows:

	1931-56	1957-61
Chemical industry	17.5	12.8
Petroleum	16.2	10.2
All manufacturing	14.7	11.3

On forebodings concerning over capacity and possible reduced growth in the chemical industry in the future, the authors of the report express the belief that, with the continuing support of the strong research and development arm of the industry, coupled with intelligent and aggressive leadership, the industry will continue to prosper.

Germany's problems

(Continued from page 5)

cuts in imports of base materials. The U.S. now accounts for 26.5% of West Germany's chemical imports, the Common Market for 34.1% and the E.F.T.A. bloc for 21.8%.

Over 1961 the number of employees rose by some 6% or by a higher degree than chemical turnover for the first time on record, while wages and salaries have increased by over 11% in several cases. The association sees the future as determined by competitive conditions, but needing continued high level of investment. Fall-backs on certain markets will be unavoidable but better chances are awaited from under-developed countries. The price pressure is expected to increase in all probability due to 'embittered' international competition, while continued cost increases, particularly for labour, will not be able to be compensated for by price increases. An optimistic future is foreseen for branches of the chemical industry connected with the textiles and building industries.

Generally speaking, however, the association sees no signs of a fundamental change of trend in the chemical field.

Overseas News

STANDARD JERSEY'S CRUDE OIL OUTPUT ROSE 8% IN 1961

WORLD volume of sales, production of crude and refinery crude runs for 1961 are the highest in the history of Standard Oil (New Jersey), reports Mr. M. J. Rathbone, president. Earnings are stated to be improving for the third consecutive year. For 1962, the company plans capital spending of nearly \$1,200 million and will probably exceed the 1957 record of \$1,131 million. This level of investment is aimed at improving quality of existing products, providing for the entry of affiliated companies into new markets, and expanding the number and variety of products. Spending on the search for oil and gas and research are expected to take a further \$200 million and \$80 million respectively.

In 1961, the company's world-wide crude oil production rose by 8%. Overseas demand is expected to rise by between 6 and 7%, while for the whole free world, the rate of interest in the next few years is expected to be between 4 and 5%.

Du Pont buy Union Carbide acetylene plant

Du Pont are to buy Union Carbide's acetylene plant at Montague, Mich., to ensure a supply of acetylene for their neoprene plant until their new arc-process plant, at present under construction at Montague, comes on stream early in 1963. The Union Carbide plant uses the carbide process.

Explosion in U.S. caprolactam plant

An explosion occurred, in which one man was killed and five others injured, at the Dow-Badische caprolactam plant under construction at Freeport, Tex. Company officials say that a faulty valve leaking cyclohexane was the cause of the accident. Damage to the unit is estimated at \$250,000 and a delay in completion of a month or six weeks is expected.

U.S. 1961 Sulphur exports

Export of sulphur by U.S. producers declined in 1961 from the record level established in 1960. Shipments overseas amounted to an estimated 1,550,000 tons compared with 1,775,000 tons exported in 1960. The Freeport Sulphur Co. attribute the decline to the slower rate of industrial growth in overseas markets and to increased competition, particularly to sulphur recovered from Lacq gas. Output from this service increased from 775,000 tons in 1960 to about 1.1 million tons in 1961.

Major importing countries of U.S. sulphur were Canada (300,000 tons), U.K. (275,000 tons), and Australia,

Brazil and India each with about 130,000 tons.

Production of sulphur in the U.S. increased 7.5% from 1960's level of 6.7 million to 7.2 million tons. Consumption was maintained at the record level of 6 million tons.

Record oil refining output in Australia

Australian oil refineries manufactured 3,091 million gallons of petroleum products in the year to 30 June—the first time annual output has exceeded 3,000 million gall. The total is 10% more than the previous year's output.

Refineries are now supplying 90% of the country's requirements. Surplus production in some products has led to the development of a considerable export trade in recent years. This trade was valued at £A22 million in 1960-61.

Standard California to make and market polypropylene under Avisun licence

STANDARD OIL of California will make and market polypropylene under a licensing agreement with Avisun Corporation—an equally owned affiliate of American Viscose Corporation and Sun Oil Co. Under the terms of the agreement, California Chemical Co., a Standard of California subsidiary, will embark on an independent market development and sales programme utilising resins manufactured to specification by Avisun. California Chemical will sell this production on the open market under its own trade mark.

This sales arrangement will be in effect for an extended period to permit California Chemical sufficient time to evaluate market potential and determine size and site of projected manufacturing facilities. When in operation, the California Chemical facilities will utilise Avisun process patents and technology.

The licensing agreement marks the first venture of California Chemical in the polyolefin plastics field. The firm now manufactures raw materials and intermediates for plastics, coatings, detergents, films, fibres, lubricating oil additives and agricultural and garden chemicals. California Research Corporation,

Cyanamid malathion plant planned for Sicily

Plans to construct an insecticide plant in Catania, Sicily, have been revealed in Rome by Dr. Robert C. Swain, director general of Cyanamid International, a division of American Cyanamid Company. The new facility will be operated by Cyanamid Italia S.p.A., the company's Italian subsidiary, and will produce malathion, the Cyanamid-developed 'wide-range' insecticide which has been cleared for use on more than 90 crops for the control of more than 100 insects.

The new unit represents an additional investment of approximately \$900,000 and brings Cyanamid's investment in the area to more than \$6.5 million. The company has operated a pharmaceutical plant in Catania since 1959 and in July, 1961, started building a new antibiotic fermentation unit. Cyanamid have manufacturing and sales affiliates in 25 countries outside the U.S. and Canada, owned either directly or in association with local companies. Total Cyanamid sales in 1960 reached \$578,753,000.

Dutch reorganisation for Shell Chemicals

The Royal Dutch/Shell group subsidiary Shell Nederland Chemische Fabriek NV, formed some years ago to administer Shell's chemical production in Holland, has changed its name, as from 1 January, to Shell Nederland Chemie NV. This is part of a reorganisation scheme to integrate chemical production and marketing. As from that date the new company will be responsible for the sale of chemical products as well as for production.

also a Standard of California subsidiary, is the official licensee under the agreement with Avisun.

Avisun, founded in 1959, are leading manufacturers of polypropylene resin and the largest commercial producer of polypropylene film. The company recently put on stream the world's largest polypropylene resin plant with a rated capacity of 100 million lb./year at New Castle, Delaware.

Standard of California will be Avisun's second polypropylene licensee, the first in the U.S. The other licensee agreement is with Shin Nippon Chisso Hiryo K.K. of Tokyo, Japan.

New oxygen company formed in Germany

A new company, which will carry out the erection and operation of large-scale oxygen plants for steelworks, has been formed by Farbwerke Hoechst, acting through their subsidiary, Knapsack-Griesheim. To be called Huttensauerstoff, the new company will have a capital of DM 20 million and will be owned equally by the two parent companies.

Overseas news

CANADIAN CHEMICAL PRODUCERS TO FORM NEW TRADE ASSOCIATION

AN association of Canadian chemical producers to represent the industry is now in the process of formation according to Mr. Robinson Ord, president of Canadian Chemical Company Ltd., who is chairman of a founding committee recently established for the purpose. Mr. Ord said that a petition for incorporation will shortly be filled in Ottawa, after which invitations will be sent to prospective members.

Decision to form an association was reached at a meeting of a group of companies held in Montreal on 14 November 1961, and a report was submitted by a firm of consultants who had been commissioned to survey the industry on the subject. The report indicated active interest in the formation of an association with a competent full-time staff. A founding committee composed of leading Canadian chemical industry personalities and with Mr. Ord as chairman was then chosen.

S.B.A. ammonium nitrate plant for Denmark

Erection of a plant for the production of ammonium nitrate at Grenaa, Denmark, is the subject of an agreement that has been concluded between the Belgian concern Société Belge de l'Azote et des Produits Chimiques du Marly (S.B.A.) and the Danish company Dansk-Norsk Kvaeststoffabrik I/S. S.B.A. will be responsible for the design and engineering of the new plant.

German organic solvents for Egypt

The West German firm of Zahn und Co. GmbH., Berlin, in co-operation with Ferrostaal AG, Essen, has received an order valued at about DM4 million for the design and erection of a plant in Egypt to produce 7 tons/day of solvents by a biochemical process. Main products will be butanol, acetone, butyl acetate and ethyl acetate.

Agricultural waste products, such as sugar cane molasses and rice bran will be used as raw materials, which were found to be suitable after extensive laboratory tests.

Australian oxygen plant for l'Air Liquide

The French concern l'Air Liquide of Paris have revealed plans to build a £A300,000 automatic oxygen plant at Elizabeth, South Australia. l'Air Liquide's Australian subsidiary is Australian Liquid Air Pty. Ltd.

The plant will produce oxygen, acetylene and nitrogen for industrial, medical

and other uses. l'Air Liquide operate 250 plants in 45 countries.

Ilmenite plant under study in Norway

Under consideration by A/S Titania are plans to build an ilmenite smelting plant near their mining facilities in southern Norway. With a capacity of 600,000 tons/year, the projected plant could produce 350,000 tons of 70% titanium slag and 150,000 tons of iron. Cost would be in the region of £12.5 million.

Petrochemical plans in Austria

As part of a 709 million-Schilling investment programme planned for 1962 by the Austrian O.M.V. concern—operator of the Schwechat oil refinery—a catalytic cracker, propylene separator and diesel oil hydrofiner are to be completed at the refinery, the crude oil capacity of which is to be doubled.

Argentine pipeline contract for E.N.I.

E.N.I., the Italian State oil concern, have received a \$200 million contract from the Argentine Government for the construction of a 1,100-mile pipeline. The line will run from Comodore Rivadavia in Patagonia to Buenos Aires. Capacity will be 10 million cu. m./day.

Plans laid for Goodyear's plants in France

It is expected that 1964 will see the start of the second French factory of Goodyear Tire and Rubber Co., U.S., to be built at Le Havre at a cost of \$6 million for the production of synthetic rubber, plastics, paint, dyestuffs, paper and "other chemical products". The plant, the products of which will be marketed in the whole Common Market area, will adjoin the operating site of Compagnie Française de Raffinage. Its base materials will as far as possible be bought locally, it is stated. It is at Port Jérôme, near Le Havre, that Société du Caoutchouc Butyl (Socabu) operate France's only large-scale butyl rubber plant.

Italian chemical exports gain over imports

Continuing brisk expansion of Italian chemical exports and a levelling off of imports are indicated in figures issued for January-October 1961 with comparative figures for the same period of 1959

Union Carbide cuts phenolic resin prices

Union Carbide have announced reductions in the prices of their phenolic resins on a selective basis from $\frac{1}{4}$ cent a lb. for some solid resins. Phenolic moulding compounds are also reduced by $\frac{1}{2}$ cent a lb. No reductions will be made on butylphenol, *p*-phenylphenol and cresol resins.

Further price drop for polyester foil in U.S.

Du Pont de Nemours, of Wilmington, Delaware, U.S., are now reported to have dropped prices for 14 of their 22 types of Mylar polyester foil from 40 to 25 cents/lb.

French chemical output 8% up

Estimates issued in Paris show that over the second half of 1961 the production level of the French chemical industry was some 8% higher than that for the corresponding 1960 period. This corresponds with a rise in the overall industrial production volume over the same period of an estimated 5%.

Algerian oil company move to Paris

Compagnie Française des Pétroles (Algerie) are to transfer their headquarters from Algiers to Paris. The move was approved by a special meeting of the shareholders. The company is a subsidiary of Compagnie Française de Pétroles and operates the Hassi Messaoud oil field at the Hassi R'Mel gas field jointly with S.N. Rapal. No reason was given for the move.

The meeting also approved an amendment to the statutes enabling the company to explore and produce oil outside the African continent.

and 1960. It can also be seen that Italy's adverse balance in this sector has been greatly diminished.

The figures, for chemicals and rubber products, are in thousands of million lire. Percentages in parentheses refer to increases over the preceding year.

	1959	1960	1961
Imports	149.9	222 (52.9%)	220.9 (0.4%)
Exports	126.2	171.1 (35.6%)	214.6 (25.4%)
Adverse balance	23.7	48.9 (106.3%)	6.3 (-87.1%)

Van Kohorn deny Du Pont charges

Van Kohorn International Corp. have denied charges filed against them and their Argentine affiliate, Ducilo, by Du Pont (see CHEMICAL AGE, 16 December 1961, p. 970). Van Kohorn claim that they built synthetic fibre plants before Du Pont entered the field and that they have 500 patents on man-made fibre and cellophane machinery and processes all over the world.

● **Mr. Henry Uhlig**, secretary and member of the American Shareholders' Committee of General Aniline and Film Corporation, has resigned from both positions as a result of his disapproval of the letter sent to American G.A.F. shareholders by the committee's chairman (see CHEMICAL AGE, 23 December, 1961, p. 1005), urging the lobbying for legislation permitting sale of the company to private U.S. interests.

● **Mr. Richard Soukup** has been appointed managing director of Richard Klinger Ltd., Sidcup, Kent, from 1 January. After studying chemical engineering at the E.T.H. at Zurich he started as a trainee with Richard Klinger in September 1950 and in June 1954 was appointed manager of the Klingdecor sales department. In 1956 and 1957 he was managing director of Richard Klinger's subsidiary in the U.S., and he returned to the U.K. at the end of 1957



R. Soukup

to take up an appointment as sales manager of Richard Klinger Ltd. In May 1958 he joined the board and became director in charge of sales. His father, Mr. Charles Soukup, was managing director from 1923 until his retirement in 1959.

● **Mr. R. M. F. Fenning**, general sales manager of the Chemical Division of The Distillers Co. Ltd., has been appointed division sales director with effect from 1 January.

● **Mr. B. R. Dorsey**, formerly senior vice-president, has been appointed executive vice-president of Gulf Oil Corporation, Pittsburgh, Pa., U.S. **Mr. Wilson M. Williams**, president and chief executive officer of Warren Petroleum International Corporation, New York, has been elected a vice-president of Gulf Oil and

PEOPLE in the news

appointed senior vice-president. **Mr. W. B. Billock**, formerly director of employee relations, has been elected vice-president in charge of industrial operations.

● **Dr. Karl Folkers**, executive director of fundamental research of the Merck Sharp and Dohme Research Laboratories, Rahway, N.J., took office on 1 January as president of the American Chemical Society. Dr. Folkers, leader of the research group that isolated vitamin B12, will serve for one year as head of 93,000 A.C.S.-member chemists and chemical engineers. He succeeds **Professor Arthur C. Cope**, head of the Department of Chemistry, Massachusetts Institute of Technology.



A. V. Hood

● **Mr. Albert V. Hood**, chief chemist of Bryant and May Ltd., retired on 1 January. He remains on the board of Octavium Hunt Ltd., manufacturers of 'sparklers' and Bengal matches, and of

James Pain and Sons Ltd., firework manufacturers. Mr. Hood, who is 64, joined Bryant and May at the age of 14 and for many years worked with the previous chief chemist, Mr. W. H. Dixon. On the latter's retirement in 1949, Mr. Hood succeeded him. Mr. Hood has contributed to many improvements and innovations in the manufacture of safety matches and during World War 2 he was responsible for research and manufacture of specialised munitions. (See also 'Distillates', page 8.)

● **Mr. Joseph A. Brindle** and **Dr. Geoffrey Walker** have been appointed to the board of Miles Laboratories Ltd. from 1 January. Mr. Brindle joined the company in November 1957, having previously been sales manager at Monsanto Chemicals Ltd. In February 1960 he was appointed general manager of development. He now becomes director of production and development and will be



J. A. Brindle (above), Dr. G. Walker (above right) and J. S. M. Dashwood (right)



based at the company's production division at Bridgend in South Wales. Dr. Walker has been medical director since he joined Miles Laboratories in July 1960 from the Institute for Metabolic Research in Oakland, California, where he was Nutrition Foundation Research Fellow and Clinical Associate to the Metabolic Service. Miles Laboratories announce that **Mr. John S. M. Dashwood** resigned from the British board on 1 January and will shortly take up an important post with the parent company, Miles Laboratories Inc., Elkhart, Indiana, as director of manufacturing and development, Miles International.

● **Mr. R. A. R. Hill** and **Mr. F. B. H. Howard-White**, both of whom have served The International Nickel Co. (Mond) Ltd. for over 40 years, have relinquished the following appointments effective 31 December 1961: Mr. R. A. R. Hill as a director and a member of the executive committees of The International Nickel Co. (Mond) Ltd. and Henry Wiggin and Co. Ltd., as well as his directorships of Mond

(Continued on page 16)

Humphreys and Glasgow service presentation



L. to r. at the Humglas presentation: G. W. Kitchen, S. R. Briggs, G. V. C. Davies, Mrs. Ambrose Congreve, S. A. Glazebrook, W. G. Burt and E. G. B. Godfrey (For details see 'People in the News' last week)

แผนกห้องสมุด กรมวิทยาศาสตร์

BRIGHTER OUTLOOK FOR CHEMICALS IN CANADA

Executives review prospects, see problems

CANADIAN chemical industry executives generally anticipate continued improvement in business during the coming year. They observed that severe difficulties face the chemical industry, however. Some typical comments are as follows:

Herbert H. Lank, president, Du Pont of Canada: Industrial production during the year ending advanced at a rate that compared favourably with all but the best years of the past. Devaluation of the Canadian dollar and the ready availability of credit were important contributory factors to the improvement. Even more significant as the year advanced was the resurgence of a strong consumer demand over a wide area. If this increase continued it could be the dominant factor in the trend of industrial production during 1962.

Leo E. Ryan, president, Monsanto Canada Ltd.: In the New Year chemical industry sales should rise 8% above 1961. Profits should hold at present levels but will not go up in proportion to the increased sales. Productivity will improve and wages will also go up.

"Most of this is a cyclic rise. What growth there remains in the chemical industry is being shorn of its locks of profit by the keen trade winds of international competition. Canada, with its mixed-up chemical tariff, is a favourite dumping ground for the surpluses of the world. Unless profits are adequate to repay the cost of capital, Canada will lose the new investment that breeds growth."

Mr. Ryan went on to say that, contrary to many public statements by prominent leaders in government and elsewhere, the solution does not lie in increased productivity or improved technology alone. There was a need for greater protection from countries with lower living standards and from those countries with much larger domestic markets.

Dr. Hugh S. Sutherland, president, Shawinigan Chemicals Ltd.: Although the price erosion, which has affected many segments of business for the past 18 months, appears to be coming to a halt, any price increases are likely to be caused only by changes in the value of the Canadian dollar.

L. D. Smithers, president, Dow Chemical of Canada Ltd.: There are signs that the chemical market may be strengthening, but there are few indications that a strong upturn is under way. Chemical people nevertheless tend to look to 1962 with optimism and seem determined to meet all competition and make some progress during the year.

W. N. Hall, president, Dominion Tar and Chemical Co.: I believe the level of Canadian business activity will be somewhat higher in 1962 than in 1961. In my own company we are forecasting a sales increase of 5%. Strenuous efforts are being

made by almost all companies to increase productivity and under these circumstances I anticipate the percentage increase in employment this year will be less than the percentage increase in sales.

I do not anticipate that prices will increase in many areas of the economy next year, but on the other hand higher sales should decrease the tendency for further spreading of the extreme price competition which developed in some segments in 1961. A continuation of 1961 year-end prices through 1962 is about my anticipation, and this of course means

People in the news

(Continued from page 15)

Nickel (Retirement System) Trustees Ltd. and The Clydach Estates Ltd.; Mr. F. B. H. Howard-White as a director of The International Nickel Co. (Mond) Ltd., Henry Wiggin, and Mond Nickel (Retirement System) Trustees. **Mr. F. Dickinson**, a director of The International Nickel Co. (Mond) Ltd., will additionally serve as a member of the executive committee of that company.

● **Mr. A. E. Drake** has been appointed a deputy chairman of the British Petroleum Co. Ltd. as from 1 January, consequent upon the retirement of **Sir Harold Snow** as a deputy chairman and a managing director at the end of 1961. Sir Harold continues as a director of the company. Mr. Drake joined BP (then Anglo-Persian Oil Co.) in 1935, was appointed a director of BP Trading Ltd. in February 1957, and a managing director of the British Petroleum Co. in July 1958.

● **Dr. Nikolaus Maus** has been appointed a director of Farbenfabriken Bayer AG, Leverkusen, West Germany, and will be responsible for the company's accounting system. He succeeds the late Herr Bernhard Dreike.

● **Herr Zoltan Merszei**, of K lchberg, Canton Zurich, Switzerland, **Mr. John van St rum**, of Midland, Michigan, U.S., and **Herr Robert J. Helfenstein**, of R schlikon, Canton Zurich, Switzerland, have been made new members of the administrative board of Dow Chemical International AG, of Basle, Switzerland (former title: Dow Chemie AG).

● **Dr. Jesse Werner**, vice-president of the General Aniline and Film Corporation, U.S., since 1959, took over as company president and chief executive officer on 1 January. He succeeds **Mr. Philip Dinkins** as G.A.F. president. At the same time **Mr. Ross Siragusa**, hitherto vice-chairman of the company, replaces **Mr. John Snyder, Jr.**, as chairman, Mr. Sir-

gusa's position to be taken over by **Mr. Peyton Martin**. Mr. Snyder will remain on the G.A.F. board.

lower average prices in 1962 than in 1961. *Mr. T. H. Glynn Michael, Ottawa, president of the Chemical Institute of Canada:* The outlook for 1962 was "for considerable improvement" but nothing of a particularly dynamic nature was seen on the immediate horizon. "In our view, the industry can look forward to steady, but unspectacular progress next year." Production of synthetic rubber, soaps and synthetic detergents, primary plastics and fertilisers, was not affected by the 1960-61 slowdown. Polymer Corporation Ltd., Canada's only producers of synthetic rubber, were now exporting to foreign markets. Exports of fertilisers were increasing.

Mr. Michael also said that the Chemical Institute is "vitaly concerned" about the problem of keeping graduate chemists in Canada. About 200 chemists graduate from Canadian universities each year, and about half leaving the country.

gusa's position to be taken over by **Mr. Peyton Martin**. Mr. Snyder will remain on the G.A.F. board.

● **Mr. Joseph Green**, a director of Gas Purification and Chemical Co. Ltd., has been appointed chairman in succession to **Mr. D. D. Mathieson**, who remains on the board.

● **Mr. F. B. Kitchen**, marketing director of Lever Brothers and Associates Ltd., has been appointed chairman of the Unilever Ltd. margarine group. **Mr. M. J. Abraham** has joined the board of Lever Brothers and Associates.

● **Mr. D. de Jong** is stated to have resigned as president of the Dutch chemical marketing concern Verkoopkantoor voor Chemische Producten NV as from 1 January, to be succeeded by Koninklijke Zout and Electro-Zuur director **Mr. D. Douwes, Jr.**

● **Mr. T. G. Batchelor**, managing director of Hercules Powder Co. (Canada) Ltd. since 1955, has retired.

● **Dr. Ian Fells**, director of studies in the Department of Fuel Technology and Chemical Engineering, Sheffield University, has been appointed reader in fuel science at the Newcastle Division of Durham University.

I.C.I. Tees-side plants

(Continued from page 9)

lonitrile plant but in addition, customers for monomeric materials had all been taking rather less than had originally been estimated (see also CHEMICAL AGE, 21 October 1961, p. 628).

Output of chlorine products was well maintained. A quite severe reduction in cyanide and sodium production was experienced, but both were now being brought back to figures not so very far below maximum plant capacity. Teething troubles on the new extensions to the methyl methacrylate and intermediates plants, brought on stream in 1961, had been overcome and these units were running well.

Commercial News

Alabastine, Manger

Negotiations are taking place with the object of the formation of a joint company, to be called Alabastine-Manger (Exports) Ltd., by Alabastine Co. Ltd., London, S.E.1 and Amasal Ltd. Inc., J. Manger and Son, Stafford and London. The companies are already co-operating in an export drive. Alabastine will continue to operate their own technical department. (See also 'Trade Notes'.)

Beecham Pharmaceuticals

From 1 January the name of Beecham Pharmaceuticals Ltd. has been changed to Beecham Proprietary Medicines Ltd. This change follows the adoption of a new divisional organisation for the Beecham Group.

Bullough Securities

Group profit of Bullough Securities Ltd. (British Dyewood Co., Lambeth and Co., J. L. Rose) for the year ended 31 October was virtually unchanged at £41,927, after tax of £48,869 (£33,923). This figure excludes Cornbrook Chemical, now a subsidiary of Burrell and Co. A final dividend of 8½%, making 12¼% (same) is announced. A 100% scrip issue is to be made.

Groveswood Securities

Group profits of Groveswood Securities Ltd., holding company of Bush Beach and Segner Bayley Ltd., Bentham Chemical Ltd. and Godfrey Woodhead and Son, totalled £151,324 (£143,957) in the year ended 30 September. Tax took £66,609 (£75,000), leaving net profit of £84,715 (£68,957). A dividend of 12¼% (10%) is announced.

Staveley Industries

Staveley Industries Ltd., a group controlling a number of chemical companies, had a difficult year in 1961 but the future is bright. Order books are healthy, says Mr. John P. Hunt, chairman.

British Enkalon

About 1,025,000 of the shares provisionally allotted to the former minority stockholders of British Enka have been subscribed for. Underwriters will therefore be required to take up 84.87% of their commitments.

Bayforin

Bayer Foreign Investments Ltd., of Toronto, a fully-owned Canadian subsidiary of the Bayer concern of West Germany, currently have holdings in a total of 79 different companies. Of these holdings, 59 are majority holdings, 12 are 50% holdings and eight minority holdings of from 25-50%.

By mid-1961 Bayer Foreign Investments (Bayforin), which was formed on 23 December 1957, had invested the equivalent of 155.5 million German marks, plus Bayforin credit totalling

- Alabastine, Manger's joint export company
- Bayer's investments in 79 companies
- Dow Chemical International formed
- Montecatini 10 months sales up 12%

some DM23 million to the companies in which it has holdings. These companies received by the same date credit amounting to some DM52 million from the German parent company and some DM77 million from banks and finance companies as Bayer-guaranteed loans.

Of the 79 companies in which Bayforin (which has an authorised capital of 50 million Canadian dollars) has a holding, some 49 are marketing companies, 17 production companies, 11 marketing companies with finished goods production facilities, one a property company and one a plant protection media research station operator.

DEA-Scholven

Raffinerie DEA-Scholven GmbH, is the new name planned for the company to operate an oil refinery and processing plant to be built in Karlsruhe, West Germany, by Scholven-Chemie AG and the oil concern Deutsche Erdöl-AG. The operating company was to have been called Oberrheinische Mineralölwerke GmbH, but three of the five original sponsors of the project have now dropped out, leaving Scholven and DEA sole partners. The Karlsruhe unit will start work in early 1963 with an annual throughput of 2 million tonnes.

Dow Chemical International

Dow Chemie AG, Basle, the Swiss subsidiary of Dow Chemical Co., U.S., announces a change of name to Dow Chemical International AG and an increase of capital from S.Fr.60 million to 100 million. Over the financial year ended 31 May 1961, the company recorded a profit of S.Fr.11,749,579. No dividend was paid owing to the planned investment programme of the company and the profit carried forward was S.Fr.19,959,268.

Firestone Tire

Sales of Firestone Tire and Rubber for the year ended 31 October totalled \$1.182 million, or 2% lower than in 1960. Profits for the year were \$63.62 million. Sales and profits in the second half of the year were at record levels.

Ruhrchemie

The Oberhausen, West Germany, chemical company Ruhrchemie AG announces for the financial year ended 30 June 1961 a turnover of DM 196 million (DM193.8 million). Ruhrchemie, whose DM60 million capital is owned jointly by Farbwerke Hoechst AG and the steel companies Hüttenwerk Oberhausen AG and Mannesmann AG, had a

trading surplus for the year of DM5,130,000 (5,050,000), standing losses of DM16.4 million having been met to DM15 million by the three shareholders in equal shares and to the rest from the Ruhrchemie surplus, a total of rather over DM3.7 million thus being free for payment into reserves.

Hooker Chemical

The board of Hooker Chemical Corporation have approved an agreement of consolidation of Parker Rust Proof Co. of Detroit, Michigan, into Hooker Chemical Corporation.

Houdry

Houdry Process Corp. have declared their regular annual dividend of 50 cents/share and an extra dividend of 50 cents/share held. The company now expects an increase in earnings over anticipated earnings for the fourth quarter of 1961 and consolidated earnings for the year will be about \$1,240,000 (\$1,029,419).

Montecatini

Over the first 10 months of 1961 Montecatini turnover increased by 12% over the corresponding period of last year to Lire 320,000 million. The company states, however, that a higher dividend for the year than the 11¼% granted in 1960 cannot be expected due to falling prices and increased production costs.

U.C.B.

The newly-formed Belgian chemical concern U.C.B. (see C.A., 16 Sept. 1961, p. 396) is offering to holders of founder shares in the S.A. Union Chimique Belge en Liquidation some 66,667 priority 'B' shares of the artificial fibre concern S.A. Fabrique de Soie Artificielle de Fubize, one Fubize share for nine founder shares of Union Chimique Belge en Liquidation. This follows the take-over of Union Chimique Belge, Fubize and other Belgian fibre manufacturers by Société Industrielle de la Cellulose. The offer is open until 19 January.

INCREASES OF CAPITAL

LEDOGA S.P.A., Milan. Being increased from Lire 8,000 million to Lire 12,000 million.

ROUSSEL LABORATORIES LTD., 847 Harrow Road, London N.W.10. Increased by £200,000 beyond the registered capital of £300,000.

SOCIETÀ CHIMICA ANIENE, of Rosignano-Solvay (Leghorn)—one of the Solvay Group. Increased from Lire 3,000 million to Lire 4,000 million.

BRITISH CHEMICAL PRICES

GENERAL CHEMICALS

Acetic Acid. 10-ton quantities, 80% tech. in bulk £72 per ton; in casks, £85 per ton; 80% pure in bulk, £78; in casks, £89; glacial, 98/100% in bulk, £88; in drums, £95.

Acetic Anhydride. Ton lots d/d, £118.

Alum. Ground, f.o.r., about £25.

MANCHESTER: Ground, £25.

Aluminium Sulphate. Ex-works, d/d, £15 10s to £18.

MANCHESTER: £16 to £18.

Ammonia, Anhydrous. Per lb., 1s 9d-2s 3d.

Ammonium Chloride. Per ton lot, in non-ret. pack, £33 2s 6d.

Ammonium Nitrate. D/d, 4-ton lots, £37 10s.

Ammonium Persulphate. Per cwt., in 1-cwt. lots, d/d, £6 13s 6d; per ton, in min. 1-ton lots, d/d, £123 10s.

Ammonium Phosphate. MAP., £106 per ton; DAP, £100 10s, per ton, d/d.

Antimony Sulphide. Per lb., d/d UK in min. 1-ton lots; crimson, 5s 8d d/d to 6s 2d; golden, 3s 11d d/d per lb. to 5s 4d d/d.

Arsenic. Ex-store, £45 to £50.

Barium Carbonate. Precip., d/d, 4-ton lots or more, bag packing, £37 10s. per ton.

Barium Chloride. 2-ton lots, £45.

Barium Sulphate [Dry Blanc Fixe]. Precip. 2-ton lots, d/d, £39.

Bleaching Powder. Ret. casks, c.p. station, in 4-ton lots. £30 7s 6d.

Borax. Ton lots, in hessian bags, c.p. Tech. anhydrous, £60 gran., £47 10s; crystal £51; powder, £52; extra fine powder, £53; BP, gran., £56 10s; crystal, £60; powder, £61; extra fine powder, £62. £1 cheaper in 5-ply paper bags.

Boric Acid. Ton lots, in hessian sacks, c.p. Comm., £78 10s; crystal, £87 10s; powder, £85 extra fine powder, £87; BP gran., £91 10s; crystal, £99 10s; powder, £97; extra fine powder, £99. £1 cheaper in paper bags.

Calcium Chloride. Ton lots, in non-ret. pack; solid and flake, about £15.

Chlorine, Liquid. In ret. 16-17 cwt. drums d/d in 3-drum lots, £41.

Chromic Acid. In 1-ton lots, per lb., 2s 2½d.

Chromium Sulphate, Basic. Powder, d/d, 1 ton lots £77.

Citric Acid—Granular. In kegs, 1-4 cwt. lots, per cwt., £7 17s 9d; 5-19 cwt. lots, per cwt., £7 16s 9d; 1-ton lots, per cwt., £7 15s 9d; packed in paper bags, 1-4 cwt. lots, per cwt., £7 10s 9d; 5-19 cwt. lots, per cwt., £7 9s 9d; 1-ton lots, per cwt., £7 8s 9d.

Cobalt Oxide. Black, per lb., d/d, bulk quantities, 13s 2d.

Copper Carbonate. Per lb., 3s 6d.

Copper Sulphate. £78 per ton less 2% f.o.b. Liverpool.

Cream of Tartar. 100%, per cwt., about £11 12s.

Formaldehyde. In casks, d/d, £40.

Formic Acid. 85%, in 4-ton lots, c.p., £91.

Glycerine. Chem. pure, double distilled 1.2627 s.g., per cwt., in 5-cwt. drums for annual purchases of over 5-ton lots and under 25 tons, £9 12s. Refined technical grade industrial, 5s per cwt. less than chem. pure.

Hydrochloric Acid. Spot, per carboy, d/d (according to purity, strength and locality), about 12s.

Hydrofluoric Acid. 60% per lb., about 1s 2d.

Hydrogen Peroxide. Carboys extra and ret. 27.5% wt., £115; 35% wt., d/d, £138.

These prices are checked with the manufacturers, but in many cases there are variations according to quality, quantity, place of delivery, etc. Abbreviations: d/d, delivered; c.p., carriage paid; ret., returnable; non-ret. pack., non-returnable packaging; tech., technical; comm., commercial; gran., granular.

All prices per ton unless otherwise stated

Iodine. Resublimed BP, under 1 cwt., per lb., 11s 6d; for 1-cwt. lots, per lb., 11s 3d.

Iodoform. Under 1 cwt., per lb., 24s 1d; for 1-cwt. lots, per lb., 23s 5d; crystals, 3s more.

Lactic Acid. Edible, d/d, 50% by wt., per lb., 16½d; 80% by wt., 26½d; C.P., 50% by wt., per lb., 14½d; 80% by wt., 23d; dark ex-works, 44% by wt., per lb. 9d. 1-ton lots, loaned containers.

Lead Acetate. White, about £154.

Lead Nitrate. 1-ton lots, about £135.

Lead, Red. Bases prices: 15-cwt. drum lots, Genuine dry red, £94 15s per ton; orange lead, £106 15s per ton; Ground in oil: red, £116 15s orange, £128 15s.

Lead, White. Bases prices: in 5-cwt. drums, per ton for 2-ton lots, Dry English £108 5s; Ground in oil, £128 10s.

Lime Acetate. Brown, ton lots, d/d, £40; grey, 80-82%, ton lots, d/d, £45.

Litharge. In 5-cwt. drum lots, £96 15s.

Magnesite. Calcined, in bags, ex-works, about £21.

Magnesium Carbonate. Light, comm., d/d, 2-ton lots, £84 10s; under 2 tons, £97.

Magnesium Chloride. Solid (ex-wharf), £19 11s per ton.

Magnesium Oxide. Light, comm., d/d, under 1-ton lots, £245.

Magnesium Sulphate. Crystals, £14 15s, ex-works.

Mercuric Chloride. Tech. powder, per lb., for 1-ton lots, in 28-lb. parcels, 19s 6d; 5-cwt. lots, in 28-lb. parcels, 20s; 1-cwt. lots, in 28-lb. parcels, 20s 3d.

Mercury Sulphide, Red. Per lb. for 5-cwt. lots in 28-lb. parcels, £1 10s 6d; 1-cwt. lots, in 28-lb. parcels, £1 11s.

Nickel Sulphate. D/d, buyers UK, nominal, £170.

Nitric Acid. 80° Tw., £35 2s.

Oxalic Acid. Home manufacture, min. 4-ton lots, in 56 lb. paper bags, c.p., about £125-£130.

Phosphoric Acid. TPA 1,700 ton lots, c.p., £103; BP (s.g. 1,750), ½-ton lots, c.p., per lb., 1s 4d.

Potash, Caustic. Solid, 1-ton lots, £95 10s; liquid, £36 15s.

Potassium Carbonate. Calcined, 96/98%, 1-ton lots, ex-store, about £76.

Potassium Chloride. Industrial, 96%, 1-ton lots, about £24.

Potassium Dichromate. Gran., 1-ton lots, £131 16s. 8d.

Potassium Iodide. BP, under 1 cwt. per lb., 9s 0d., per lb. for 1-cwt. lots, 8s 9d.

Potassium Nitrate. 4-ton lots, in non-ret. pack, c.p., £63 10s.

Potassium Permanganate. BP, 1-cwt. lots, per lb., 2s 0½d; 3-cwt. lots, per lb., 1s 11½d; 5-cwt. lots, per lb., 1s 11½d; 1-ton lots, per lb., 1s 11d; 5-ton lots, per lb., 1s 10½d. Tech., 1-ton lots in 1-cwt. drums, per cwt., £10 3s; 5-cwt. in 1-cwt. drums, per cwt., £10 5s; 1-cwt. lots, £10 14s.

Propylene Oxide. Bulk lots, d/d, £162.

Salammoniac. Ton lot, in non-ret. pack, £47 10s.

Salicylic Acid. MANCHESTER: Tech., d/d, per lb., 2s 6d, cwt. lots.

Soda Ash. 58% ex-depot or d/d, London station, 1-ton lots, about £16 11s 6d.

Sodium Acetate. Comm. crystals, d/d, £75 8s.

Soda, Caustic. Solid 76/77%; spot, d/d 1-ton lots. £33 16s 6d.

Sodium Bicarbonate. Ton lot, in non-ret. pack, £12 10s.

Sodium Bisulphite. Powder, 60/62%, d/d 2-ton lots for home trade, £45.

Sodium Carbonate Monohydrate. Ton lot, in non-ret. pack, c.p., £64.

Sodium Chlorate. 1-cwt. crums, c.p. station, in 5-ton lots, about £87 per ton.

Sodium Cyanide. 96/98%, ton lot in 1-cwt. drums, £126.

Sodium Dichromate. Gran. Crystals 1-ton lots, £109 13s. 4d., anhydrous, 1-ton lots, £126. All lots delivered d/d.

Sodium Fluoride. D/d, 1-ton lots and over, per cwt., £5; 1-cwt. lots, per cwt., £5 10s.

Sodium Hyposulphite. Pea crystals, £38; comm., 1-ton lots, c.p., £34 15s.

Sodium Iodide. BP, under 56 lb. per lb., 11s 3d; 56 lb. and over, 11s 0d.

Sodium Lactate. Edible, 70% per ton, £150, d/d free drums, 1-ton lots.

Sodium Metaphosphate. Flaked, paper sacks, £136.

Sodium Metasilicate. (Spot prices) D/d UK in 1-ton lots, 1-cwt. free paper bags, £29.

Sodium Nitrate. Chilean refined gran. over 98%, 6-ton lots, d/d c.p., per ton, £29.

Sodium Nitrite. 4-ton lots, £32.

Sodium Perborate. (10% available oxygen) in 1-cwt. free kegs, 1-ton lots, £129 10s; in 1-cwt. lots, £139 5s.

Sodium Percarbonate. 12½% available oxygen, in 1-cwt. kegs, £170 15s.

Sodium Phosphate. D/d, ton lots: disodium, crystalline, £40 10s, anhydrous, £89; tri-sodium, crystalline, £39 10s, anhydrous, £87.

Sodium Silicate. (Spot prices) 75-84° Tw. Lancs and Ches, 6-ton lots, d/d station in loaned drums, £12 10s; Dorset, Somerset and Devon, per ton extra, £3 5s; Scotland and S. Wales, extra, £2 17s 6d. Elsewhere in England, not Cornwall, extra, £1.

Sodium Sulphate [Desiccated Glauber's Salt]. D/d in bags, about £19.

Sodium Sulphate [Glauber's Salt]. D/d, up to £14.

Sodium Sulphate [Salt Cake]. Unground, d/d station in bulk, £10.

MANCHESTER: d/d station, £10 10s.

Sodium Sulphide. 60/62%, spot, d/d, in drums in 1-ton lots, solid, £38 2s 6d; broken, £39 2s 6d. Flakes, £40 12s 6d, crystals, £29 10s.

Sodium Sulphite. Anhydrous, £71 10s; comm., d/d station in bags, £27-£28 10s.

Sulphur. 4 tons or more, ground, according to fineness, £20-£22.

Sulphuric Acid. Net, naked at works, 168° Tw. according to quality, £11 10s—£12 10s per ton; 140° Tw., arsenic free, £9; 140° Tw., arsenious, £8.

Tartaric Acid—Powder and Granular. Per cwt.: 10 cwt. or more, in kegs, 294s; in bags, 286s per cwt.

Titanium Oxide. Standard grade comm., rutile structure, £178; standard grade comm., anatase structure, £163.

Zinc Oxide. Per ton: white seal, £90; green seal, £88; red seal, £85.

SOLVENTS AND PLASTICISERS

Acetone. All d/d. In 5-gal. drums, £124; in 10-gal. drums, £114; in 40-45 gal. drums, under 1 ton, £89; 1-5 tons, £84;

5-10 tons, £82; 10 tons and up, £80; in 500-gal. tank wagons, £79. In bulk minimum 2,500 gal. £75 per ton.

Butyl Acetate BSS. 10-ton lots, £165.

n-Butyl Alcohol BSS. 10 tons, in drums, d/d, £137 10s.

sec-Butyl Alcohol. All d/d. In 5-gal. drums, £168; in 10-gal. drums, £158 in 40-45 gal. drums, under 1 ton, £133; 1-5 tons, £130; 5-10 tons, £129; 10 tons and up, £128; in 400-gal. tank wagons, £125.

tert-Butyl Alcohol. 5-gal. drums, £195 10s; 40/45-gal. drums: 1 ton, £175 10s; 1-5 tons, £174 10s; 5-10 tons, £173 10s; 10 tons and up, £172 10s.

Diacetone Alcohol. Small lots: 5-gal. drums, £185; 10-gal. drums, £175. 40/45-gal. drums: under 1 ton, £148; 1-5 tons, £147; 5-10 tons, £146; 10 tons and over, £145, in 400-gal. tank wagons, £142.

Dibutyl Phthalate. In drums, 10 tons, d/d per ton, £114; 45-gal. 1-4 drums, £200.

Diethyl Phthalate. In drums, 10 tons, per ton, £183; 45-gal. 1-4 drums, £189.

Dimethyl Phthalate. In drums, 10 tons, per ton, d/d, £173; 45-gal. 1-4 drums, £179.

Diocetyl Phthalate. In drums, 10 tons, d/d, per ton, £222; 45-gal. 1-4 drums, £228.

Ether BSS. 1-ton lots, drums extra, per lb., 1s 11d.

Ethyl Acetate. 10-ton lots, d/d, £130.

Ethyl Alcohol Fermentation grade (PBF 66 o.p.). Over 300,000 p. gal., 3s 10½d; d/d in tankers, 2,500-10,000 p. gal. per p. gal., 4s 0½d. D/d in 40/45-gal. drums, p.p.g. extra, 2d.

Absolute alcohol (74.5 o.p.), p.p.g. extra, 2d.

Methanol. Pure synthetic, d/d, £46.

Methylated Spirit. Industrial 66° o.p.: 500-gal. and up, d/d in tankers, per gal., 5s 7½d; 100-499 gal. in drums, d/d per gal., 6s 0½d-6s 2½d. Pyridinised 66° o.p.: 500 gal. and up, in tankers, d/d, per gal., 5s 11d; 100-499 gal. in drums, d/d, per gal., 6s 4d-6s 6d.

Methyl Ethyl Ketone. All d/d. In 40/45-gal. drums, under 1 ton, £143 10s; 1-5 tons, £138 10s; 5-10 tons, £136 10s; 10 tons and up, £143; in 400-gal. tank wagons, £134 10s.

Methyl isoButyl Carbinol. All d/d. In 5-gal. drums, £203; in 10-gal. drums, £193; 40-45 gal. drums, less than 1 ton, £168; 1-9 tons, £165; 10 tons and over, £163; in 400-gal. tank wagons, £160.

Methyl isoButyl Ketone. All d/d. In 5-gal. drums, £209; in 10-gal. drums, £199; in 40/45-gal. drums, under 1 ton, £174; 1-5 tons, £171; 5-10 tons, £170; 10 tons and up, £169; in 400-gal. tank wagons, £166.

soPropyl Acetate. 10 tons, d/d, 45-gal. drums £125.

isoPropyl Alcohol. Small lots: 5-gal. drums, £118; 10-gal. drums, £108; 40/45-gal. drums: less than 1 ton, £83; 1-9 tons, £81; 10-50 tons, £80 10s; 50 tons and up, £80.

RUBBER CHEMICALS

Carbon Disulphide. According to quality, £61-£67.

Carbon Black. GPF: Ex-store, Swansea. Min. 3-ton lots, one delivery, 6½d per lb.; min. 1-ton lots and up to 3-ton, one delivery, 7d per lb.; ex-store, Manchester, London and Glasgow, 7½d per lb. HAF: ex-store, Swansea; Min. 3-ton lots, one delivery, 7½d per lb.; min. 1-ton lots and up to 3-ton, one delivery, 8d per lb. Ex-store Manchester, London and Glasgow, 8½d per lb. ISAF: Ex-store Swansea, min. 3-ton lots in one delivery, 9½d per lb., min. 1-ton lots and up to 3-ton in one delivery, 10d per lb. Ex-store Manchester, London and Glasgow, 10½d per lb.

Carbon Tetrachloride. Ton lots, £83 15s.

India-Rubber Substitutes. White, per lb. 1s 4½d to 1s 7d; dark, d/d, per lb., 1s 0½d to 1s 4d.

Lithopon. 30%, about £57 10s for 5-ton lots.

Mineral Black. £7 10s-£10.

Sulphur Chloride. British, about £50.

Vegetable Lamp Black. 2-ton lots, £64 8s.

Vermilion. Pale or deep, 7-lb. lots, per lb., 15s 6d.

COAL TAR PRODUCTS

Benzole. Per gal., min. 200 gal., d/d in bulk, 90's, 5s 3d; pure, 5s 7d.

Carbolic Acid. Crystals, d/d bulk, per lb. 1s 2d; 40/50-gal. ret. drums extra, per lb., ½d.

Creosote. Home trade, per gal., according to quality, f.o.r. maker's works, 1s-1s 9d. MANCHESTER: Per gal., 1s 3d-1s 8d.

Cresylic Acid. Pale 99/100%, per gal., 7s 9d D/d UK in bulk: Pale ADF, per imperial gallon f.o.b. UK, 8s; per US gallon, c.i.f. NY, 103.50 cents freight equalised.

Naphtha. Solvent, 90/160°, per gal., 5s heavy, 90/190°, for bulk 1,000-gal. lots, d/d, per gal., 4s. Drums extra; higher prices for smaller lots.

Naphthalene. Crude, 4-ton lots, in buyers' bags, nominal, according to m.p.: £22-£30; hot pressed, bulk, ex-works, £42; refined crystals, d/d min. 4-ton lots, £65-£68.

Pitch. Medium soft, home trade, f.o.r. suppliers' works, £10 10s; export trade, f.o.b. suppliers' port, about £12.

Pyridine. 90/160, per gal., 20s about.

Toluol. Pure, per gal., 5s; 90's 2,000 gal. in bulk, per gal., 4s 9d.

MANCHESTER: Pure, naked, per gal., 5s 6d.

Xylole. According to grade, in 1,000-gal. lots, d/d London area in bulk, per gal., 5s 4d-5s 6d.

INTERMEDIATES AND DYES (Prices Normal)

m-Cresol 98/100%. 10 cwt. lots d/d, per lb., 4s 9d.

o-Cresol 30/31°C. D/d, per lb., 1s.

p-Cresol 34/35°C. 10 cwt. lots d/d, per lb., 5s.

Dichloraniline. Per lb., 4s 6d.

Dinitrobenzene. 88/99°C., per lb., 2s 1d.

Dinitrotoluene. Drums extra. SP 15°C., per lb., 2s 1½d; SP 26°C., per lb., 1s 5d; SP 33°C., per lb., 1s 2½d; SP 66/68°C., per lb., 2s 1d.

p-Nitraniline. Per lb., 5s 1d.

Nitrobenzene. Spot, 90 gal. drums (drums extra), 1-ton lots, d/d, per lb., 11d.

Nitronaphthalene. Per lb., 2s 5½d.

o-Toluidine. 8-10 cwt. drums (drums extra), per lb., 1s 11d.

p-Toluidine. In casks, per lb., 5s 9d.

Dimethylaniline. Drums extra, c.p., per lb. 3s 2d.

Obituary

Mr. David Adams, publisher and manager of the *Commercial Grower*, one of the Benn Group of journals, died on 21 December, following injuries sustained in a fall at his home. Mr. Adams joined the Benn Group in 1938, becoming manager of *Newspaper World* in 1939. After war service and a year at Reuters he returned to Benn Brothers Ltd. in 1946 as manager and publisher of *The Fruit Grower*. From 1952 until May 1959 he was manager of *The Electrical Journal*. He rejoined *Commercial Grower*, as *The Fruit Grower* had been renamed, in 1959.

DIARY DATES

FRIDAY 5 JANUARY

Plas. Inst.—London: Institution of Electrical Engineers at 2.30 p.m. Young peoples lecture on 'Nature's Plastics' by Prof. M. Stacey.
S.C.I.—London: 14, Belgrave Sq., S.W.1, 6.30 p.m. 'Recent advances in the chemistry of penicillin' by F. P. Doyle.

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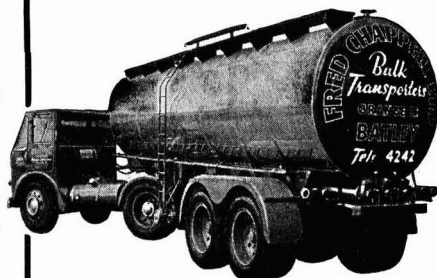
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Specifications filed in connection with the acceptances in the following list will be open to public inspection on the dates shown. Opposition to the grant of a patent on any of the applications listed may be lodged by filing patents form 12 at any time within the prescribed period.

ACCEPTANCES

Open to public inspection 7 February

Manufacture of polymeric materials. Imperial Chemical Industries Ltd., Gee, E., and Johnson, P. C. **888 769**
 Polyvinyl chloride and like compositions. BTR Industries Ltd., and Tudor, R. **889 022**
 Hydrocarbon copolymers and their method of preparation. Dunlop Rubber Co. Ltd. (Adamek, S., and Dudley, E. A.). **888 986**
 Process for obtaining fluorine compounds. Bbüumert, P. A. F. **888 844**
 Preparation of organopolysiloxanes containing silicon-bonded carboxyalkyl radicals. General Electric Co. **889 131**
 Method of producing alumina. American Cyanamid Co. **888 772**
 Hydrazides and preparation thereof. Richardson-Merrell, Inc. **888 773**
 Metalliferous monoazo-dyestuffs derived from 1:3-dihydroxy-phenyl ketones. Farbwerke Hoechst AG. **888 774**
 Process for the chlorination of polyethylenes having a density of more than 0.93. Farbwerke Hoechst AG. **889 108**
 Process for the production of substituted 3:5-diketone-pyrazolidines and intermediate compounds obtained therein. Westminster Bank Ltd. [Addition to 843 691.] **889 033**
 Process for the production of highly active hydrogenation catalysts from carbonates and hydroxides. Leuna-Werke W. Ulbricht Veb. **888 775**
 Process for the production of antioxidants from alkyl phenols and formaldehyde. Farbenfabriken Bayer AG. **889 116**
 Process for the manufacture of thioxane(1:4) and alkyl and aryl derivatives thereof. Farbwerke Hoechst AG. **889 117**
 Unsaturated aliphatic amino-diols and process for their manufacture. Ciba Ltd. **888 988**
 Process for the polymerisation of organic compounds. Deutsche Gold- und Silver-Scheideanstalt. **888 958**
 Complex metal compounds of triazine monoazo-dyestuffs, and their manufacture and use. Ciba Ltd. **888 960**
 Silicone rubber foam compositions. Wacker-Chemie GmbH. **888 777**
 Synthetic elastomers. Goodyear Tire & Rubber Co. **889 204**
 Process for the manufacture of readily polymerisable vinyl-compounds. Farbenfabrik Wolfen Veb. **889 122**
 Polymeric product. Esso Research & Engineering Co. **888 991**
 Sulphonamides and process for their manufacture. Ciba Ltd. **889 146**
 Production of alkyl aryl compounds. British Petroleum Co. Ltd., White, P. T., and Porter, F. W. B. **888 964**
 Diamidines. May & Baker Ltd. **888 965**
 Process for preparation of lower alkyl borates. Olin Mathieson Chemical Corporation. **888 929**

Process for the separation of isotopes of alkali metals and apparatus for carrying out this process. Commissariat a l'Energie Atomique. **888 884**
 Process for producing polychlorophene latices. Farbenfabriken Bayer AG. **888 993**
 Steroids and the manufacture thereof. Upjohn Co. **888 994**
 Production of linear polyesters. Inventa Aktiengesellschaft Für Forschung und Patentverwertung. **889 036**
 Nitroso derivatives of polymers and copolymers of ethylenically unsaturated monomers and the process for the production thereof. Institute Francais du Petrole des Carburants et Lubrifiants. **888 966**
 Tetracycline derivatives. Soc. D'Etudes de Recherches et D'Applications Scientifiques et Medicales. **888 968**
 Organo-silicon compounds. Imperial Chemical Industries Ltd. **888 938**
 Preparation of detergents of the sulphionate and sulphuric ester types. Unilever Ltd. **889 040**
 Synthesis of urea and apparatus therefor. Stamicarbon N.V. **889 046**
 Manufacture of polyurethanes. Imperial Chemical Industries Ltd. **889 048**
 Veterinary compositions comprising prednisolone 21-trimethylacetate. Ciba Ltd. **889 049**
 Steroids. Merck & Co., Inc. **888 974**
 Organic polyisocyanates, and their manufacture. Imperial Chemical Industries Ltd. **889 050**
 Hydrocatalytic treatment of petroleum hydrocarbons. British Petroleum Co. Ltd., Adlington, D. G., and Tupman, K. **889 051**
 Selective hydrogenation of acetylenically unsaturated compounds and catalyst therefor. Distillers Co. Ltd. **888 999**
 Polymers prepared from aromatic hydrocarbons and oxo compounds. Farbenfabriken Bayer AG. **889 054**
 Aminated organosilicon compounds. Midland Silicones Ltd. **889 001**
 Organo-substituted borine carbonyls and their production. Badische Anilin- & Soda-Fabrik AG. **889 091**
 Substituted mercaptoamidine hydrochlorides, their derivatives and fungicidal compositions prepared therefrom. Union Carbide Corporation. **889 002**
 Synthesis of diamines. National Distillers & Chemical Corporation. **889 003**
 Method of producing L-valine by fermentation. Kyowa Hakko Kogyo Kabushiki Kaisha. **889 215**
 Process and apparatus for devolatilising polymeric materials, especially alkenyl aromatic polymers. Dow Chemical Co. **888 716**
 Production of solid olefin polymers having high isotactic content. Phillips Petroleum Co. **889 061**
 Herbicidal compositions. Leek Chemicals Ltd. **889 152**
 Preparation of esters. British Petroleum Co. Ltd., Dean, R. A., and Hunt, J. M. **889 067**
 Production of delta zirconium hydride. United States Atomic Energy Commission. **889 153**
 High melting point polymers. Distillers Co. Ltd. **889 125**
 Derivatives of 5-nitro-2-furfuraldehyde. Norwich Pharmacal Co. **889 068**
 Process for the preparation of vinyl chloride. Soc. Belge de L'Azote et des Produits Chimiques du Marly. **889 177**
 Fluoro-olefin terpolymers. Du Pont de Nemours & Co., E. I. **888 765**
 Unsaturated aliphatic nitrodials, their cyclic esters and process for their manufacture. Ciba Ltd. [Divided out of 888 988.] **888 989**
 Adhesive. Unilever Ltd. **888 764**
 Production of butene-1. Distillers Co. Ltd. **889 138**

Polymerisation of ethylene. Distillers Co. Ltd. **888 855**
 Process and catalyst for the polymerisation of α -olefins. Distillers Co. Ltd. **888 856**
 Epoxidation. F.M.C. Corporation. **889 072**
 Ethers and process for their manufacture. Ciba Ltd. **888 923**
 Pyridine derivatives and process for their manufacture. Ciba Ltd. **889 074**
 Analgesic compositions comprising aryloxy propanolamines. Carter Products, Inc. **889 075**
 Bleaching and cleansing compositions. Du Pont de Nemours & Co., E. I. **889 079**
 Hypotensive composition containing 1-10-thiomoxyseserpine. Laboratoires Francais de Chimiotherapie. **889 162**
 Derivatives of 3-alkyl, 3'-methyl-spiro-[benzoxazole-2,2'-(2'H-1'-benzopyran)]. National Cash Register Co. **889 186**
 Process for producing L-glutamic acid. Ajinomoto Kabushiki Kaisha. **889 187**
 Preparation of trialkylboranes. Continental Oil Co. **888 724**
 Production of oximes. Allied Chemical Corporation. **888 725**
 Fluorinated copolymers, their production and cured products obtained therefrom. Du Pont de Nemours & Co., E. I. **888 766**
 Dithiophosphonic acid anhydrides. Farbenfabriken Bayer AG. **889 085**
 Benzothiadiazine derivatives and a process for the manufacture thereof. Hoffman-La Roche & Co., AG., F. **889 086**
 Apparatus and process for continuous reactions, copolymerisation-polymerisation, etc. Marco, J. **889 088**
 Reforming gasoline range hydrocarbons in the presence of ammonia. Sun Oil Co. **888 832**
 Stabilised olefine polymers. Phillips Petroleum Co. **889 090**

Market Reports

Further price reductions expected

LONDON The chemicals market has begun the New Year without any special feature. Home demand for industrial chemicals remains satisfactory for the period with a good intake against contracts, while export activity has been well maintained. The price position generally continues steady following the price cuts for acetic acid, acetic anhydride, etc., by D.C.L. last week (C.A., 30 December, 1961 p. 1018).

Quiet conditions continue in the fertilisers market and the position is likely to remain unchanged for some weeks. There have been no outstanding features in the coal tar products market either as regards the movement or prices.

MANCHESTER Trading conditions during the past few days have been quiet in most sections as far as fresh business is concerned. However, there has been a gradual improvement in the movement of supplies to the consuming end against existing bookings, and it is expected that deliveries to the home trade outlets as well as on export account will quickly get back to the pre-holiday level.

There is an impression that some further price reductions will shortly be announced, following those already made in acetic acid and acetic anhydride.

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TRADE NOTES

Continuous centrifugal

From 1 May 1962 Thomas Broadbent and Sons Ltd., Central Ironworks, Huddersfield, will handle the manufacture and sales of the Broadbent Bird solid bowl continuous centrifugal under licence from the Bird Machine Co., South Walpole, Mass., U.S.

Titanium oxide products

A discussion of the colouring of rubber and plastics by pigmentation with titanium appears in an 8-page bulletin, BTP/89, issued by British Titan Products Co. Ltd., 10 Stratton Street, London W.1. BTP/92 (20 pages) discusses the pigmentation of acrylic media with Tioxide pigments, while other recent literature issued by the company includes a folder, BTP/97 on Tioxide A-LF, described as an anatase titanium oxide with superior dispersion properties, and BTP/94 on Tioxide Granular for the colouring of vitreous enamels.

Reinforcing resins

In future the wide range of resins for reinforcing rubber compounds which is made in France by Cie. Rousselot will be handled in the U.K. by Durham Raw Materials Limited, 1/4 Great Tower Street, London E.C.4. This organisation has been appointed the sole distributor and sales agent.

Technical data regarding these resins are available. The range includes resins

which have been specifically designed for both natural and synthetic rubbers, and to meet the requirements of butyl, nitrile, and Neoprene processing.

Plastics dipping

The capacity of the plastics division of Acalor (1948) Ltd. at Kelvin Way, Crawley, Sussex, which was extended earlier this year, has been further enlarged by the installation of an advanced plastics dipping plant. The size of articles to be dipped will initially be limited but this will be for a few months only, and coating can be undertaken in h.d. polythene, p.v.c., polypropylene and Penton.

Alabastine products

From 1 January, sales and distribution in the U.K. of all products of the Alabastine Co. Ltd. will be the responsibility of Amasal Ltd. inc. J. Manger and Son. (See also 'Commercial News'.)

New Tennant agency

In conjunction with Falck Chemical Corporation, New York, Charles Tennant Sons and Co. Ltd., 9 Harp Lane, London E.C.3, have taken over the U.K. sales distribution of alkyl phenols in addition to the aryl mercaptans manufactured by Pitt-Consol Chemical Co., Newark, N.J. The following alkyl phenols are now in production: 2-methyl-4-tert-butylphenol, 2-methyl-6-tert-butylphenol, 2-methyl-4-nonylphenol, 2-methyl-4,6-di-tert-butylphenol,

2,6-dimethylphenol and 2,4-dimethyl-1,6-tert-butylphenol. Brochures and samples of both ranges are available.

Pigment dispersant

With Technical Bulletin L-28 Armour Hess Chemicals Ltd. introduce Armoblen S, their new pigment dispersing aid. A cationic surface active chemical, it is recommended for improving the dispersion of organic red pigments, particularly todouidine red. The bulletin, and samples of Armoblen S, are available from the company at 6 Arlington Street, St. James's, London S.W.1.

Durapipe price cuts

Price reductions, in some instances up to 42% for their thermoplastic pipe fittings are announced by Durapipe and Fittings Ltd., West Drayton, Middx. The reductions, effective from 1 January, follow improvements in manufacturing techniques and lower raw material costs and apply to both home and overseas sales. The new reductions are the second to be announced by the company within a year. In January 1961 price cuts of up to 32% on pipe and fittings were made.

The £50,000 factory extension, for which the company has just obtained planning permission, is expected to be in operation by the end of March 1962.

New C.B.M.P.E. offices

The Council of British Manufacturers of Petroleum Equipment have moved to new offices at 118 Southwark Street, London S.E.1 (telephone: Waterloo 1491).

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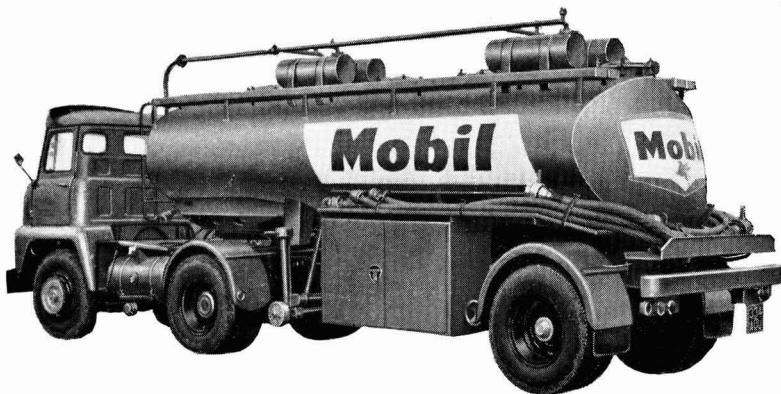
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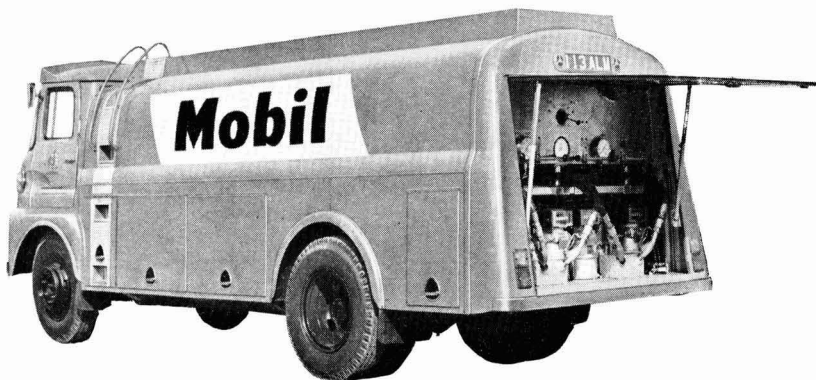
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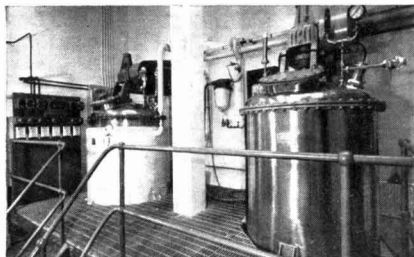
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