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CENTRAL INTELLIGENCE AGENCY

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INFORMATION REPORT

COUNTRY China

REPORT

SUBJECT Chemical Industry: Plants, Products, Markets, Supplies, Prices, Government Controls/Light Industry Products and Supplies

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THIS IS UNEVALUATED INFORMATION

1. [redacted] the important uses for ethyl alcohol in China [redacted]

It is converted into acetic acid glacial and used for industrial solvents (ie lacquer paint solvent) and for medical and pharmaceutical purposes. During the Japanese occupation it was used as a substitute for motor fuel, mixed with sulphuric ether, but currently this is unnecessary, as motor fuel is available.

2. [redacted] the large producers [redacted] estimate of the total production [redacted]

(a) All major distilleries in Shanghai except the Farimex Company and the Tung Chi (? sp) Alcohol Factory on Great Western Road have been shut down either because of machinery breakdowns, lack of technicians, or both. [redacted] no definite figures on the production capacity of the Tung Chi factory. The Farimex Distilling Works is located at 751 Avenue Roi Albert and reported a capacity of 700 gallons a day in 1939 but now reports a capacity of 1200 gallons a day due to the installation of improved machinery and enforced Communist labor. (Farimex was formerly owned by European mechanical engineers who supervised the production, installation and fitting of the machinery.) Of possible interest in this connection is the Far Eastern Oxygen and Acetylene Company formerly French-owned, located at 200 Rue Zicawei. It is a minor producer (700 gallons daily) of acetylene and oxygen for welding purposes. This factory also has orders for CO₂ which it has been so far unable to fill. Temporarily Farimex is filling them.

(b) Plants which have been closed, but can be expected to be reactivated when and if production know-how increases are described below:

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- (1) The largest is Pootung Alcohol Distilling Company. [redacted] It was partially dismantled before the Japanese occupation and the machinery removed to the interior. It was able to produce approximately 4000 gallons per day.
- (2) The second largest distillery was the Mei Lee Alcohol Factory situated in the Hongkew district. It had a capacity of 1400 gallons per day. [redacted] its machinery was obsolete [redacted] Industrial machinery is a sore subject in China today. 50X1-HUM It is next to impossible for the Chinese to produce good machinery, even if they have the blueprints for it; there are not enough skilled technicians and laborers to accomplish it. In an attempt to alleviate the situation, classes in industrial machinery and engineering are being conducted by the USSR advisors, assisted by Hungarian and Czechoslovakian advisors. 50X1-HUM
- (3) The Eurasia Chemical Company had a daily capacity of 700 gallons per day. [redacted]

3. [redacted] ethyl alcohol processed into acetaldehyde for the production of acetic acid [redacted]

The Communist government is experimenting with catalytic processes. [redacted] the experimental station is located behind Jessfield Park where an area of perhaps 60 mow (approximately 10 a c r e s) is roped off. It is surrounded by a bamboo fence; guards are stationed at every gate. Within it are big yards for storage, and one comparatively small building. This installation is next to the Dawalu Yeast Factory (owned by Danish and German personnel before the Communist government took over). [redacted] experimentation in this field began only two or three years ago. "Comrade" (fun) Iing, the military controller [redacted]

[redacted] boasted [redacted] in May 1951 that the Communist government was 50X1-HUM making acetic acid glacial but [redacted] was unable to produce one. Neither was any available on the open market. [redacted]

[redacted] He claimed to be a graduate of Yenching University, but the nature of his questions about plant machinery and the various chemical processes involved gave him away even more than his appearance. 50X1-HUM

[redacted] He rose fast in the Communist government and is now in charge of the Bureau of Chemical Industries located [redacted] in Hamilton House. Government bureaus change addresses quite often and it is possible that they are now in some new location.

4. [redacted] raw materials [redacted] commonly used for alcohol production [redacted] critical supply of this fermentation material [redacted]

Corn is preferred. Dried sweet potatoes, barley, sea-damaged rice (rice which has been wet by sea-water and thus ruined for use as food), small quantities of artichokes, chicory or any other agricultural product containing starch, and in another category - molasses. Wusih, about 100 miles from Shanghai on the way to Nanking, is the center of corn-production. Corn also comes from Hankow, transported by junks. Sweet potatoes come from Ningpo, in the south. Sugarbeet molasses comes from Harbin from the Halanke Sugar Factory. It is very difficult to obtain delivery in Shanghai owing to the shortage of freight space. Molasses [redacted]

[redacted] is obtainable in small quantities from Canton from the sugar refineries there but it is very costly owing to the fact that it must be transported by railroad. [redacted]

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[redacted] All of these materials are needed for food and are in short supply. However, they are requisitioned by the government inasmuch as alcohol is needed for "medicinal" and chemical use.

5. [redacted] alcohol used [redacted] as a motor fuel [redacted] motor benzol available for fuel in Shanghai [redacted] the situation elsewhere in China [redacted]

Enough gasoline is available. It is not of very good quality and is bad-smelling (of sulphur fumes). But the supply is sufficient to make the use of alcohol unnecessary. A small quantity of motor benzol is available, produced by the Shanghai Gas Company. [redacted]

6. [redacted] uses for fusel oil? [redacted] available in China [redacted]

The Farimex Company is the only Shanghai company which produces fusel oil. It produces 40 gallons a month. The other firms have continuous refining stills (wherein there is no separation of fusel oil). Its primary use is for producing amyl acetate for technical use (ie solvent for lacquer paints). A small quantity is used for flavoring (such as artificial banana oil), and is also converted into valeric acid and its esters. The price of flavorings is high, and there is a ready market for it. It is bought mainly by candy manufacturers, mineral water manufacturers, and makers of cigarettes and cigars. (The sugar used with it comes from Poland and is available in large quantities.) "Comrade" Ling told [redacted] that the government was importing large quantities of fusel oil from Manchuria. He mentioned a particular shipment of 2000 gallons transported by rail. The Farimex Company formerly collected its fusel oil for two years, waiting until there was a sufficient quantity for dehydration and refinement. The usual process consisted of dehydration by calcium chloride and rectification into the fractions of isopropyl alcohol, isobutyl alcohol and active amyl and isomyl alcohol. The residue was not usually used. (There are still some higher alcohols to be isolated but since no use existed for them they were not processed. In order to obtain them it would have been necessary to install a complicated vacuum type machine which would have been impossible to construct in China.)

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7. [redacted] Shanghai's requirements for caustic soda, soda ash, bleaching powder and hydrochloric acid? [redacted]

[redacted] the dyeing factories use the greatest portion of these products for dyeing the regulation Communist workmen's uniform. (Only the military officials wear olive drab.) Caustic soda is currently manufactured in Shanghai by the Yung Lee Soda Factory. It is produced in a very primitive way and sold in liquid, rather than the usual solid form. The same factory also produces bleaching powder of about 50% chlorine content. In addition to its use in the dyeing industry bleaching powder is used in quantity for disinfecting water and treating swimming pools (there are still several public and private pools in use in Shanghai). Sulphuric acid, used by distilleries, is produced in Shanghai by the Kiangsu Chemical Works in large quantities. It has a technical quality of 98% (66° Be).

8. [redacted] the major industries consuming the chemicals listed above [redacted]

Government dyeing works, textile industries, state-operated pharmaceutical and medical centers and hospitals. Fusel oils are purchased by small private firms.

9. [redacted] chemicals [redacted] made in Shanghai [redacted] imported [redacted]

No statistics are available to the general public: if they are ever tabulated at all they are never published and inasmuch as it is impossible to make inspection trips under the Communist government this question must be answered

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in the most general terms of rumor and guess. In these terms [redacted] all top quality chemicals, and medical and pharmaceutical supplies are imported. In many cases they are repackaged and sold under Chinese labels. The supply is entirely inadequate. As a conservative estimate more than five times as much as is available could be put to immediate use. [redacted]

[redacted] several truckloads of acetic acid arriving in Shanghai, [redacted] was packed in wooden barrels painted red (an internationally recognized way of packing this product). Each barrel contains 400 pounds. Other top quality chemicals are smuggled in [redacted]

10. [redacted] chemical imports [redacted] most important with respect to Shanghai's chemical industry. To China's chemical industry [redacted]

Caustic soda is one of the most important, for the textile and dyeing industries. Sulphuric acid, bleaching powder and large quantities of fertilizers are priority imports. There was a rumor in June 1954 that the government was beginning to manufacture ammonium sulphate in a plant located near Nanking. [redacted] its capacity was nearly 10 tons a day (but [redacted] they are happy if they obtain one ton per day).

11. [redacted] textile processing chemicals [redacted] imported into Shanghai [redacted]

[redacted] bleaching powder, caustic soda, acetic acid and dyestuffs. Domestic production is insufficient and because the supply is inadequate, the prices are out of sight.

12. [redacted] important dyestuffs [redacted] produced domestically in Shanghai [redacted]

Some carbon black is being made, but in small quantities only. Some mineral pigments, such as chrome yellow are being produced, but on an experimental scale only. [redacted] one [redacted] was experimenting in this line and is still there [redacted] is a former flyer, half Chinese and half Japanese. He is called Wu Hsiao-chieh [redacted]

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Before his experimentation with chrome yellow Wu spent some time in jail being questioned in connection with an explosion in a cellulose nitrating plant he had worked in. Because of the bad safety precautions, explosions of this nature are common in China, and since the Communists always need a scapegoat, some employee is picked out for the bearing of the blame. Wu's friend (fnu) Liang, a former newspaperman and teacher of journalism is helping him with his experimentation. Aside from these small efforts, there is no important activity in this field.

13. [redacted] the Tien Lee Nitrogen Works [redacted] principal products [redacted] produced daily [redacted]

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[redacted] this factory [redacted] can produce only a fraction of the fertilizer required by the Chinese government and [redacted] it does not work with explosives or nitrating processes.

14. [redacted] chemicals [redacted] exported [redacted] from Shanghai [redacted]

Chemicals, with the possible exception of China wood oil, are not exported in quantity from China. (China wood oil has been exported for years to Hong Kong on the barter system.) Some coal tar products produced in Mukden are exported. Probably there are some by-products of the oil industry currently being developed in Sinkiang province which are being exported. [redacted] a sample of some paraffin produced in Sinkiang [redacted] was as yellow as amber, of very poor quality. [redacted]

15. [redacted] the Shanghai Gas Works [redacted]

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[redacted] In November 1952 [redacted]

[redacted] It was heavily guarded everywhere. It was necessary to pass a sentry box, and in order to do so a previous arrangement had to be made [redacted] The daily production was a carefully guarded secret. They were producing naphthalene fractions for use in disinfecting paint (coal tar paint). Very often the residue was thrown into the river (there is no good use for it).

16. [redacted] the importance of Shanghai as a chemical production center [redacted]

Shanghai [redacted] is the only chemical production center of any importance in China. It is also the center of light industry, such as it is. In each field, Shanghai "wears baby shoes." Production techniques are in their infancy. Work is crudely done, efficiency is low. The laboring element has taken control of the factories away from management with inevitable results.

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17. [redacted] the State Pharmaceutical Plant No 3 in Shanghai [redacted]

[redacted] The plant is apparently unable to produce first quality medical and pharmaceutical supplies. For instance, liver injections produced by this plant which should contain 10 international units of active Vitamin B Complex, contains only one unit. Therefore the patient must submit to 10 of the very painful injections to obtain the benefits he would normally receive from one, and a hundred injections instead of the usual ten prescribed for patients suffering from anemia. Most doctors therefore prescribe imported pharmaceutical products. There have been several unfortunate results from anticholera serum, government-produced and distributed. Several children died from one batch. A dentist [redacted] was able to save his own son 12 years old in the nick of time by injections of imported penicillin.

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18. [redacted] chemical producers in Shanghai [redacted] acquired by the government [redacted] government control [redacted] individual producers [redacted]

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(a) [redacted] they are all controlled. Although the constitution does not outlaw private enterprise, the Communists have taken over all of these businesses through one ruse or another. [redacted] the constitution currently being drawn up for ratification in January 1955 will prohibit private enterprise of any kind.

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(b) The most common ways of taking over an enterprise are:

(1) Through domination by the labor union. All workmen are obliged to belong to the union, whose elected spokesman then requires the owner to provide office space and meals for one or more high level union officials (actually they are labor bureaucrats). The officials then post a schedule for required indoctrination. In most factories classes meet for two hours before the working day begins and for two hours afterwards. To miss one of these classes involves severe punishment; the laborer can be dismissed for non-attendance and will be automatically blacklisted for employment elsewhere. There have been some exceptions, when low communist officials have been related to workmen and have closed their eyes to absences, but these seem to occur on a low level only; the higher echelons of officialdom are stricter. Wages, working hours and social provisions are dictated by the union bosses. No appeal is allowed the private owner.

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If there is any question or resistance on the part of an owner he is likely to be forcibly detained in his offices or in the offices of the labor bureau for as long as 10 days. This has happened to several

One Maria Hangi, Shanghai representative of the medical supply firm was detained in her offices for two days and nights while negotiations were taking place for the closing of the branch. The workmen asked an enormous amount of severance pay. The government regulation requires that the owner pay three months' salary as severance, but it is rare that the unions' members are satisfied with only three months salary. firm had to pay one month's salary for each year the laborer had worked, in addition to eight months' salary per man.

- (2) Another means of control is through the assignment of a military controller to the premises. This official is usually accompanied by a technical expert. The controller takes over the financial end of the business and the technician supervises machinery and labor. Bank records, books and safes are immediately sealed by the controller. The 'technician' brings in his own men and assigns them to strategic factory positions. after the Communists took over four political men were assigned to each 10 men employed, to watch and report on their actions and reactions. The controller and technician then take over the best office space and begin their reorganization of the factory on communist lines. The owner is relegated to some small closet somewhere and is usually most happy to accept whatever he is offered by the Communists for his property.

- (3) If neither of the above controls is considered adequate, a tax bureau representative arrives and demands to see the company books. Office space is requisitioned and all records are opened to him. He then proceeds to find taxable flaws in books and records until he has whittled down the cash surplus sufficiently to ruin the business. During the course of such machinations, no shipment can leave the factory until the tax representative has inspected, sealed and stamped it. Inasmuch as he is free to come and go as he likes, there have been many instances of work stoppage for considerable periods until such time as the tax official has decided to reappear in his office, or if there, to seal and release the shipment. Technical representatives who are often in utter ignorance of the machinery they supervise, have been known to put entire plants out of commission by speeding up the revolutions per minute of machines which are obviously not designed for higher speeds, and by making other easily avoidable blunders. Hard won efficiency in the chemical production field has hit a new low with communist supervision.

20. Market prices of chemicals

Acetic Acid: In January 1951 imported acetic acid could be obtained for JMP\$9500 per pound. In March 1954 the same acid cost JMP\$38 thousand (equal to US\$1 on the black market). The locally made variety was market listed at JMP\$27 thousand but none was available. Even the imported variety at JMP\$38 thousand was scarce. One of the last remaining private chemical producing plants was buying at JMP\$50 thousand per pound from the local Utopia Chemical Laboratories, located in the Hongkew district. The quality was adequate (it was obviously repackaged, imported acid).

Sulphuric Acid: In 1950-51 sulphuric acid made by the Kiangsu Chemical Works cost JMP\$2500 per pound. In March 1954 it cost JMP\$3500.

Amyl Acetate: In January 1951 the chemically pure quality was obtainable at JMP\$40 thousand per pound. In March 1954 the same quality cost JMP\$80 thousand.

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Ethyl Acetate: In January 1951 the price per pound was JMP\$21 thousand. In 1954 it was doubled: JMP\$42 thousand. This price was for the technical quality (usually 40% cheaper than the chemically pure quality).

Orange Oil, Common: There was almost no cargo on the market in March 1954. Old cargo, which was sometimes spoiled, cost JMP\$70 thousand per pound. (Exchange rate was then JMP\$24 thousand to US\$1, the black market rate from JMP\$33 thousand to JMP\$40 thousand.)

Orange Oil, Good Quality: In March 1954 it cost JMP\$600 thousand per pound. Sellers paid 20% tax.

Orange Oil, Terpeneless: In March 1954 the price was JMP\$2,800,000, approximately US\$112. (The US current price is \$60.)

Lemon Oil, Common: In March 1954 the price was JMP\$50 thousand per pound. (It was usually spoiled.)

Lemon Oil, Good Quality: March 1954, JMP\$500 thousand.

Lemon Oil, Terpeneless: March 1954, JMP\$4,800,000.

(The above prices, [redacted] are listed in the Pharmaceutical and Chemical Guild Price List published in December 1952. This list was still in use in March 1954. Since there are no characters in Chinese for the different oils, they are listed in English.)

Alcohol: In January 1951 96% alcohol was easily obtainable at JMP\$7 thousand per pound. Shortages began to develop in that year and at the end of 1952 the price had climbed to JMP\$28 thousand. In March 1954 the price dropped to JMP\$13 thousand.

Amyl Alcohol, Rectified: In March 1954 it was obtainable at JMP\$50 thousand per pound.

Fusel Oil, Hydrous: March 1954, JMP\$18 thousand per pound.

Liver Injection: [redacted] The locally made government-produced ampoules (1 cc containing one international unit of active Vitamin B Complex) sold for JMP\$10 thousand per 10 ampoules.

Gasoline: In March 1954 one liter cost JMP\$18 thousand.

Iridium Alloys: An alloy containing platinum and iridium made into ballpoints for pen manufacture sold at JMP\$6 million per ounce. (Each ounce contained approximately 6000 ballpoints. Great quantities of these pens are manufactured in government factories. The point is welded onto the nib of a cheap pen and the nib is split. The pen sells for approximately US\$.50 - they are of very poor quality.)

21. Imported medical supplies smuggled through [redacted] are very expensive and their well-known superiority to the local products nettles the local health authorities. For example, between January and March 1953 many doctors in Shanghai prescribed Rimifon, a patent medicine made by a well-known [redacted] firm for the treatment of certain types of tuberculosis. Results from use of the drug were so good that its fame spread rapidly and countless Chinese were getting it sent to them in Shanghai by friends and relatives [redacted]. In March 1953 the Department of Public Health in Kiangsu Road in Shanghai issued a pronouncement that Rimifon had been found ineffective against tuberculosis and that importation was henceforth prohibited.

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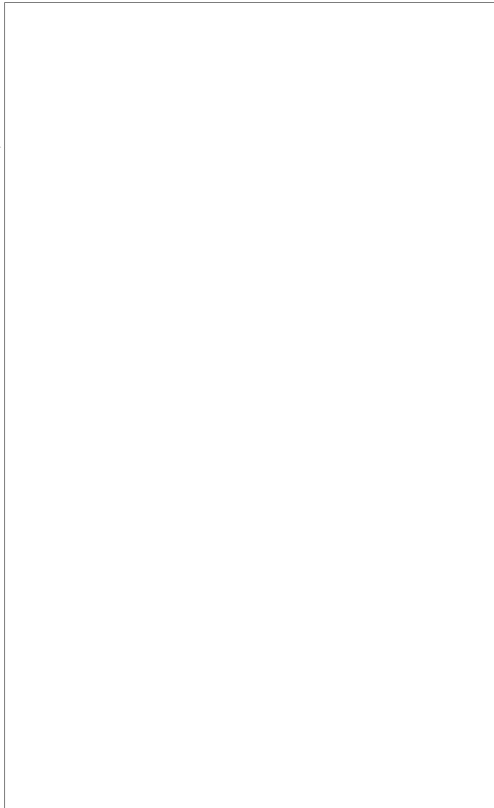


Individuals were forbidden to receive small packages of it from their friends. At the end of six months, without explanation, it was officially pronounced efficacious again. This is typical of the current whims of the Department of Public Health.

22. A supply of [redacted] stainless steel drums of the type used in the transport of chemicals is currently being sold to the manufacturers of bicycle frames (they are cut up and made into steel tubing and are in great demand). [redacted] some of these drums [redacted] were probably left-overs from 1946, 1947 and 1948. The price is high. One drum of approximately 70-gal- lon capacity sells for JMF\$8 million. 50X1-HUM

23. Another government-operated light industry of some importance is the manu- facture of radio microphones and loudspeakers. Tubes in the finished product are usually [redacted] smuggled in [redacted]. Some sewing machines are also being manufactured. 50X1-HUM

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