

HEADQUARTERS  
U. S. STRATEGIC BOMBING SURVEY  
(PACIFIC)  
APO 234  
C;O POSTMASTER, SAN FRANCISCO

INTERROGATION NO. 71  
(Obtain from G-2)

PLACE: Offices CICA.  
Mitsukoshi Dept. Store.

DATE: 20 Oct. 1945.

Division of Origin: Oil and Chemical.

SUBJECT: Control of the Japanese Alkali, Inorganic and  
Abrasives industries, the strategic and critical  
compounds in each and the relationship between  
private industry and the military in priorities.

Personnel interrogated and background of each:

Mr. YOKOTA - Director Group II, Chemical Industries  
Control Association.  
Mr. TSUDA - Manager Alkali Dept.  
Mr. AKIYAMA - Manager Abrasives Dept. CICA.  
Mr. HIGUCHI - Manager Inorganics Dept. CICA.  
Mr. KATSURA - Director Plans and Supervision, CICA.

Interrogator: Lt. Comdr. W.H. EVANS, USNR.

Interpreter: Lt (jg) H.A. Deane, USNR.

Summary:

1. In 1941 the Alkali Industry in Japan voluntarily organized the Nippon Denkai Soda Kogyo Kumiai (Japan Electrolytic Soda Control Association) as a clearing house for the allocation of raw materials the supply of which was critical due to the uncertainties of salt shipments from Manchuria and Formosa. Total production of alkalies during the years 1941 and 1942 when the Association functioned declined despite the more equitable allocation of salt. Priorities for new equipment, repair parts and replacement of obsolete installations were not available to the industry because of the fact that the military, who were in control, failed to recognize their requirement.

2. 50% of the total production of Chlorine for 1944 was requisitioned by the military by making direct dealings with private industry. This resulted in the breakdown of the Chemical Industry Control Association due to the fact that both raw materials and products bypassed their jurisdiction.

3. The most critical or strategic chemical products during the war years were: 1) Caustic Soda 2) Soda Ash 3) Sulfuric Acid, 4) Chlorine 5) Oxygen 6) Benzol 7) Ammonia 8) Methanol 9) Glycerine.

4. In 1941 the Japan Abrasives Industry Assoc. was formed as a means of distributing raw material on a more equitable basis to members. The CICA assumed the functions of this organization when the CICA was formed in 1942.

5. Shortages in the Abrasives Industry such as coke, silicon, pitch coke were felt by the principal users in the grinding wheel manufacturing business. The most critical item was Alundum which became very short in October 1944.

6. The Artificial Mixed Fertilizer Assoc. and the Processed Fertilizer Assoc. were formed in 1939 to control the allocation of raw material and to regulate prices in cooperation with the government through the Ministry of Forestry and Agriculture.

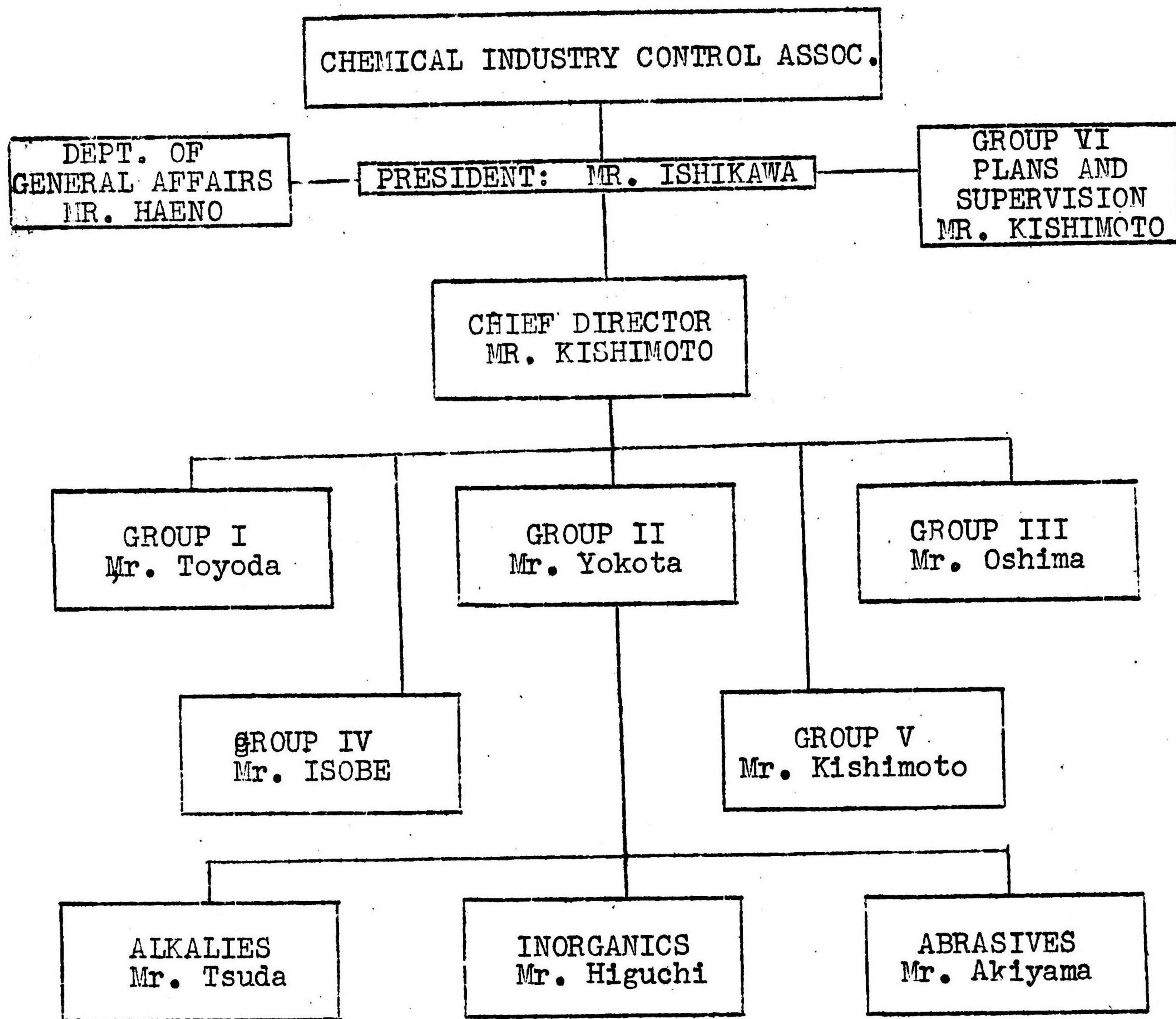
7. Strategic and Critical Products were 1) Red and Yellow Phosphorus 2) Potassium Nitrate 3) Sodium Cyanide 4) Ammonium Perchlorate.

8. The Phosphorus Chemical Industry plant at Toyama (Rikagaku Kogyo KK) was 80-90% destroyed by incendiaries in 1945 and was never placed in operation again.

The diagram below shows the organization of the CICA in general and indicates the fixation of authority and responsibility for the three departments which form the basis for this interrogator

Mr. K. YOKOTA  
 Mr. S. TSUDA  
 Mr. H. HIGUCHI  
 Mr. T. AKIYAMA

Director Group II CICA  
 Manager Alkalis Department  
 Manager Inorganics Department  
 Manager Abrasives Department



## INTERROGATION

Mr. YOKOTA was graduated from the Agricultural Chemical Department of Tokyo Imperial University in 1916, and immediately went to work for the Rasa Artificial Fertilizer Co. (Rasa Kogyo K.K.) where he rose to the position of manager before leaving in 1942. This company was engaged in the manufacture and sale of chlorine, superphosphates, sulfuric acid, caustic soda, bleaching powder and muriatic acid with plants at Osaka, Miyako and Oshina. In 1936 he became Managing Director.

In June 1941 the Japanese Alkali Industry formed the Japan Electrolytic Soda Control Association (Nippon Denkai Soda Kogyo Kumiai) with 100% voluntary membership. This organization was designed to control the allocation of salt, a raw material which had become critically short due to the rapid expansion of the industry and to difficulties in importing it from Manchuria and Formosa. Peak production years for both Soda Ash and Caustic Soda were 1938 and 1939 after which production fell off progressively due to the increasing difficulty in procuring salt. Although the Association was formed for the express purpose of solving the raw material predicament and to insure a more equitable allocation of the supply, production continued to decrease on account of the scarcity of salt.

Another function of the Association was cost accounting. There was no liason of any kind with the military. In October of 1942 it was dissolved when the CICA was formed.

Difficulties in plant operation which led to production shortages were the direct result of the critical situation in Iron and Steel. Compressors, Pumps, stills and heavy duty pipe were specific pieces of equipment that caused shutdowns. It was considered that these shortages were even more critical than the lack of salt and resulted in a greater net loss in production. The reason for this situation was attributed to the malfunctioning of the Priorities Board which was monopolized by the military. The military authorities refused to recognize the acute state of production disrepair and failed to grant priorities until too late. It was emphatically stated that the cause of the rapid decline in output was directly attributable to the failure of the military authorities to appreciate the requirements of the industry.

The handling of raw materials before the war was through the Chemical Bureau (founded in 1935) in the case of chemicals or through the cognizant government agency for non-chemical items. When raw materials became extremely short in 1944 certain interests in private industry contacted the military agencies directly by by-passing the government. Both the Army and the Navy considered that alkalies were not essential to the manufacture of immediate war materials and therefore, priorities were not forthcoming. Priorities for both raw materials and essential maintenance equipment were granted to plants producing such products as end products in the explosive field (picric acid). The Army and Navy made direct negotiations with private industry for basic chemicals and compounds related to the manufacture of munitions. The control and functions of the CICA were thus circumvented with resulting deterioration in the value of organization.

50% of all chlorine production for 1944 was appropriated by the Army and Navy by direct requisition. This policy caused extraordinary readjustments in civilian allocations with the result that many important users received less than their pro-rata allocation. The CICA exercised no control over transactions engineered by the military and had no knowledge of them whatsoever. For this reason, production records will not include

the entire industry.

A list of the most critical and strategic chemicals prepared by all four Japanese officials were:

- |                  |              |
|------------------|--------------|
| 1. Caustic Soda  | 5. Chlorine  |
| 2. Soda Ash      | 6. Glycerine |
| 3. Sulfuric Acid | 7. Oxygen    |
| 4. Ammonia       | 8. Methanol  |
|                  | 9. Benzol    |

Mr. AKIYAMA graduated from the law school of Tokyo Imperial University in 1923 and immediately went to work with the Tokyo Electrical Light Co. (Tokyo Dento K.K.) in the accounting department. In 1938 he entered the employ of the Japan Manchuria Aluminum Co. in the new business department, and in 1944 became Chief Director of the Japan Abrasives Industry Association (Nippon Kensakuzai K.K. Kumiai) which had been founded in Oct. 1941 as a central control organization for the purpose of allocating raw materials. Raw material shortages were experienced in coke, silicon and pitch coke, all of which were produced locally. The Silicon Industry had a similar organization and the two functioned as parallel associations.

The finished products were distributed to manufacturers of grinding wheels and cutting tools who, in turn, sold their produce to the heavy industries. Machine tool manufacturers were important users of such products. In 1944 a critical shortage developed in Alundum which came from North China.

Mr. HIGUCHI graduated from the Agricultural Chemistry school of Tokyo Imperial University in 1918 and immediately went to work in the Kuhara Trading Co. (Kuhara Shoji K.K.) importers and exporters of Calcium Phosphate, Soda Ash and Caustic Soda. Trade was carried on mostly with the United States and when the depression came in the early '20's the organization discontinued business. From 1922 until 1940 he was in the employ of the Nissan Fertilizer Manufacturing Co. (Nissan Kagaku Kogyo K.K.) engaged in the trading business. In 1940 he entered the trading department of the Northeast Industrial Development Co. (Tohoku Kogyo K.K.). This organization was engaged in the trading of fibre products and textiles. In 1942 he went with the Kaisha Chemical Products Experimental Development Co. (Kaisha Kagaku Seihin Yushuiso Shinko) and became Managing Director in 1943 the same year the company was dissolved. In 1943 he entered the employ of the CICA.

The Fertilizer Industry in Japan formed itself into two control associations in 1939. These were the Mixed Fertilizer Producers Association and the Processed Fertilizers Producers Association (Heigo Hiryo Seizogyo and Kasei Hiryo Seizogyo). Both Associations represented 100% of the industry and were conceived as a means of making more equitable distribution and allocation of raw materials. A system of price regulation was set in operation with the cooperation of the Government through the Ministry of Forestry and Agriculture. Another control organization in the artificial fertilizer industry was the semi-official Japan Fertilizer Co., Ltd. The president of this organization was appointed by the Ministry of Forestry and Agriculture, but private industry also entered into the management.

Strategic and critical materials in the inorganics field were:

- |                              |                                   |
|------------------------------|-----------------------------------|
| 1. Red and Yellow Phosphorus | Used in Incendiaries              |
| 2. Potassium Nitrate         | Used in Explosives                |
| 3. Sodium Cyanide            | Used in Shatterproof<br>Plastics. |
| 4. Ammonium Perchlorate      | Used in Explosives.               |

The Yellow Phosphorus plant of Phosphorus Chemical industries Co. at Toyama which produces 45% of Japan's output of this material, was 80-90% destroyed in 1945 by fire resulting from air attack.

The appended table lists important strategic chemicals in the three fields - Alkalies, Inorganics and Abrasives - indicates the number of plants engaged in the manufacture of each in addition to the location of the key installations and the percentage of the total production by each plant.

<u>PRODUCT</u>	<u>NO OF PLANTS</u>	<u>LOCATIONS</u>	<u>PERCENT OF TOTAL CAPACITY</u>
Soda Ash ( $\text{Na}_2\text{CO}_3$ )	4	Ube	30%
		Yawata	43%
		** Tokuyama	37%
*Caustic Soda ( $\text{NaOH}$ )	4	Ube	25%
		Yawata	45%
		** Tokuyama	30%
***Caustic Soda ( $\text{NaOH}$ )	35	Niigata	15.0%
		Omuta	9.0
		Sakata	3.7
		Takaoka	3.8
		Shidukawa	6.4
		Asaki	6.7
		Fushiki	5.8
		Nagoya	3.2
		Osaka	3.4
		Sakaide	3.8
		Total:	60.8%

\*\*\* Electrolytic Caustic Soda.

\*\* Two Plants.

\* Ammonia-Soda process caustic.

Alundum, Grain	9	Shiojiri	45%
		Sakai	15
		Osaka	12
		Kochi	8
Alundum, White Grain	6	Shiojiri	60%
		Sakai	30%
Carborundum	6	Shiojiri	60%
		Fukuyama	20
Carborundum, Green Grain	3	Shiojiri	60%
		Fukuyama	25
Phosphorus, Yellow	4	Koriyama	22%
		Miharu	22
		Toyama	45
Phosphorus, Red	3	Koriyama	31%
		Miharu	21
		Toyama	48
Potassium Nitrate	3	Okitsu	60%
		Osaka	15
		Kameido	25
Sodium Cyanide	6	Niigata	30%
		Toyama	20
		Fushiki	3
		Sakata	11
		Yamagata	11
		Hirota	25
Ammonium Chlorate	2	Gumma	52%
		Tokyo	48