

To: H. S. Bergen - St. Louis
J. Durland - MMK Tokyo
D. A. Olson - St. Louis
T. Nakata - MMK Tokyo
T. Katayama - MMK Tokyo
R. K. Louis - MOFEL, HK
J.S.N. Forbes - MOFEL, HK

V. C. Gaerlan - MOFEL, HK
R. S. Hill - MOFEL, TAIWAN
E. Liang - MOFEL, TAIWAN
W. R. Richard - St. Louis
R. H. Munch - J.F. Queeny
C. R. Coleman - Ruabon

TAIWAN

ASKAREL DIELECTRIC MARKET SURVEY

5/11/70

MONSANTO PERSONNEL:

Victor C. Gaerlan, Area Marketing Manager, Asia Pacific (based in Hong Kong). Joseph Y. Lee, Sales Manager, Taipei Office, Eric C. Liang, Sales Engineer, Taiwan Office.

Mr. Liang worked as an Electrical Engineer in the manufacture of mineral oil, mica and electronic capacitors. In addition to this technical background he has indepth acquaintance and long friendships with the technical people at all of the major capacitor manufacturers in Taiwan. This makes Mr. Liang unusually self qualified to handle our interests in Taiwan.

Our Taiwan district office was opened about ten months ago and total sales are near one million dollars annually.

THE ASKAREL DIELECTRIC MARKET IN TAIWAN:

The 1970 use of chlorinated diphenyl for capacitors will be near 600,000 pounds. This market is expected to reach one million pounds a year by the end of 1971.

Use of transformer askarel is small, highly variable, unpredictable and around 50,000 pounds in 1970.

Until recently Monsanto has not pursued nor sold Aroclor to the Taiwan capacitor market. Aroclor capacitors were first made in Taiwan about four years ago.

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Originally, Kaneka of Japan supplied the Aroclor but due to pricing factors, raw material supply factors and search for technology other than Japanese, at various times the Taiwan capacitor makers elected to purchase Aroclor from France and Germany. However, Japanese pressure thwarted this.

Today, with exception of 144 M/T per year order placed six months ago on annual contract by Centric Industry, with Prodelec all capacitor Aroclor used in Taiwan is being supplied by Kaneka. Monsanto now seeks to capture the total Taiwan market aware of our need to compete against Kaneka and with Bayer and Prodelec also active.

On pursuit of this market, promptness and reliability of supply is very important. Experience indicates the following over all time of supply from different sources:

SUPPLY TIME

Hong Kong	:	5 days
Japan	:	10 days
U.S.A.	:	60 days
U.K.	:	Unreliable (has taken 6 months)
Germany or France	:	45 days

For Monsanto U.S.A. to dependably supply Taiwan it appears important to warehouse back-up stocks in Hong Kong, which will cost about 1.0 cents per pound of Aroclor, including warehouse and freight charges.

OCEAN FREIGHT RATES TO TAIWAN

Ex Japan	0.6 to 0.7 cents / pound
Ex UK & Europe	1.6 cents / pound
Ex USA (direct)	3.7 cents / pound (effective July 1970)

Ex USA via Hong Kong including 6 month storage

3.4 cents/pound

PRESENT STATUS AT TAIWAN AROCLOR CAPACITOR MANUFACTURERS:

Shinlin: Present consumption 360,000 lbs/year

Product Used: Kaneclor 300 (Aroclor 1242) supplied indirectly by Nichicon, Japan who purchase from Kaneka and use Kaneclor 300 themselves for capacitors. Shinlin are licensed by Nichicon and pay them a royalty based on the selling price of Shinlin's capacitor production. This covers cost of capacitor design, consulting fee and knowhow. Nichicon charge Shinlin a premium for Kaneclor 300, above the Japanese market price quoted by Kaneka to Nichicon. This illustrates how Kaneka through their direct customer, namely Nichicon in Japan has tied up Shinlin's business in Taiwan and also Shinlin's export business to various countries in Southeast Asia.

Shinlin pay \$ 450 M/T or 20.4 ¢ per pound for Kaneclor 300 bought from Nichicon on 120 days credit terms.

Today when we visited Shinlin they gave us a trial order for 20 drums of Aroclor 1242 which we quoted at 20.4 ¢/lb ex-U.S.A. This material is not being shipped ex U.K. because of their poor supply situation.

Tatung: Present consumption 250,000 lbs/year

Product Used: Shibanol 400 (Aroclor 1248) supplied by Toshiba, Japan who purchase it as Kaneclor 400 from Kaneka and also use Kaneclor themselves for capacitors. Tatung are licensed by Toshiba and the arrangements are identical to those described above relative to Shinlin-Nichicon. Thus this is another illustration of how Kaneka through Toshiba also tie-up the Taiwan market, while holding the local Japanese market as well. We also find the same arrangements pertain in Korea relative to San Hwa Condenser who are licensed by Nichicon (Nippon Condenser Co.) who supply 360,000 lbs/year of Kaneclor 300.

We understand that MMK markets Aroclor through a subsidiary of Toshiba. While we find that Toshiba sells Shibanol (Kaneclor) in Taiwan, there is no evidence of MMK Aroclor sale through Toshiba, to Taiwan.

We do not know what price Tatung pays Toshiba for Shibanol 400. The Japanese price may be covered up in the Tatung overall license arrangement with Toshiba.

Last December Monsanto seeking Tatung business quoted 23.¢/lb. C.I.F. ex-U.K. This was rejected and we requested 21.0¢ which we understand is the same price quoted by Bayer and satisfactory to Tatung for a trial shipment. Five drums of Aroclor 1248 ex-U.K. are enroute for approval and basis for placing future commercial orders.

Today we succeeded selling Tatung 300 drums of Pyranol A13B3B, ex-U.S.A. at 23.0 ¢/lb. C.I.F.

Tai-Shing Electric, Taichung City: These people located 120 miles from Taipei seek to make Aroclor motor-run capacitors and expect to buy 30 to 40,000 lbs of Aroclor annually.

Connell: Have a capacitor plant 15 miles out of Taipei. They are not making Aroclor capacitors but may do so in the future.

Centric Industries: Will make 25 K.V.A.R. 6.9 KV paper Aroclor 1242 capacitors. Expect to use 112,000 lbs Aroclor for year when their plant begins operation in September, 1970.

Centric Industries already contracted their first year supply of Aroclor with Prodelec at 21.00 ¢/lb. C.I.F. However, will buy any extra amount above contract from Monsanto and will buy exclusively from us next year if Monsanto will warehouse back-up stocks in Hong Kong.

Centric is a licensee of Shizuki, Japan, with whom MMK claim to have close ties.

Centric is affiliated with San-Ho Electric who intend to buy transformers askarel from Monsanto in Taiwan.

In this frame-work whereby the Japanese capacitor makers have the Taiwan capacitor producers tied up and in the background Kaneka forces virtually exclusive use of Kaneclor, it is our impression that the Taiwan capacitor makers (for this reason) seek another source of electrical Aroclor supply other than Japan. It is Monsanto's goal to capture the Taiwan market and preclude Bayer and Prodelec. Monsanto world-wide has the approaches Ex-U.S.A., Ex-U.K. and Ex-MMK in any event.

It is evident that both Tatung and Shinlin welcome visits by Mr. Scoville of GE (when he comes to Japan). They wish to explore possible license with GE on polypropylene film capacitors. As Mr. Scoville will first visit the Japanese capacitor makers such as Toshiba, Nissin, Nichicon etc., the Taiwan manufacturers ask that he keep in mind that the Taiwan capacitor makers will probably prefer to license directly with GE rather than to sublicense through Japanese capacitor makers. In Taiwan, we may have developed some insight as to why our MMK people are having such a difficult time selling electrical Aroclor against the frame-work of ties established

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by Kaneka on the Japanese mainland with Japanese capacitor makers and which seems to extend through them into Taiwan, Korea and elsewhere in Asia.

It should interest GE to know that Shinlin have sampled electrical (capacitor grade) polypropylene film from Bollere, the large French paper company.

GE seek to license their Magvar and Pyranol - 2 systems in Japan and other Asia Pacific countries. GE seeks to supply their polypropylene film. In Japan GE has already licensed Nissin and Mr. Scoville plans to visit the following firms within 6 months:

Nissin Electric Co. Ltd.
(GE Licensee on Power Capacitors - largest)
20 Umezu-Takase-Cho-Ukyo-Ku
Kyoto, Japan
Att. T. Yamagata - Chief of Foreign Affairs Section

Tokyo Shibaura Electric Co.
(Affiliate of GE - Power Capacitors)
1-6, 1-Chome, Uchisaiwai-Cho-Chiyoda-Ku
Tokyo, Japan
Att. H. Seki - Manager International Division

Nichicon Capacitor Ltd.
(Ballast & Small Capacitor Manufacturing & Power)
Oikedoru Karasumachigasi-Iru, Nakagyo-Ku
Kyoto, Japan
Att. N. Takahashi - Chief-Foreign Section

Matsushita Electric Industrial Co. Ltd.
(Ballast & Small Capacitors - all types)
One-5 Chome, Inazu-Cho, Toyonaka
Osaka, Japan
Att. K. Koyama - General Manager

Shizuki Electric Manufacturing
(Ballast and Small Capacitors)
One-~~7~~1aisha-Cho
Nishinomiya, Japan
Att. S. Yamamoto, President

Fujhengurko Co.
(Ballast & Small Capacitors - 150,000/mo. -
claim 70% of ballast industry)
2.9, 2-Chome-Minamerokugo, Ota-Ku
Tokyo, Japan
Att. M. Maeno - President

Fujiken Co. Ltd.
(Small Industrial Capacitors)
Address Unknown

List per telephone call of today. Good sailing. Careful of the geisha girls!

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Certainly this is the list of the leading capacitor makers in Japan and who as explained above seem highly influential in this industry throughout the Asia Pacific Area. We are well aware of Kaneka's dominant position in the frame work of this market.

Mr. Scoville's visit presents an opportunity for Monsanto to penetrate this market by tying in Aroclor sales with General Electric's interests in polypropylene film sales through licensing their Magvar and Pyranol-2 systems. It is imperative that Monsanto tie-in with GE. If Kaneka were to establish ties with GE, this would further deteriorate our weak position in Japan. It would be desirable if Monsanto could be the marketing arm for GE, polypropylene film for capacitors in Japan and other Asian countries along the same lines as we are establishing in the U.K.

Mr. Scoville asked that I visit GE at Hudson Falls on my return from the Asia Pacific Area. We look forward to doing this and asking him to please call on MMK before he visits the capacitor makers in Japan.

KOREA

The following information about the Korean market has been given by Connell Brothers, our agent and will be investigated by Mr. V. Gaerlan.

Korea: Monsanto distributor, Mr. Y. M. Kim
Connell Bros. Co. Ltd.

I. Sam Hwa

Kaneka 300 (Aroclor 1242) supplied by Nichicon (Nippon Condenser Mfg. Co. 50 drums/month = 360,000 lbs/year

II. International Electric Co.

Product type used is unknown

CONCLUSIONS

Our Japanese marketing people are presently in a quandary trying to determine whether their lack of success in penetrating the market is due entirely to the strong commercial ties established by Kaneka through the Japanese capacitor makers -- or whether technical criticism by Kaneka that the power factor of Kaneclor is more heat stable than the similar property of Monsanto's Aroclor is a valid deterrent.

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During my visit no capacitor maker raised this question about the thermal stability of power factor, even though the opportunity to do so was at hand.

This question of thermal stability is very subtle and the only place in the world where we would trust results of probes of this question is in Dr. Munch's laboratory. Fortunately for Monsanto, Dr. Munch has developed the very carefully controlled procedure required to determine power factor of Aroclor correctly. As yet our own USA analytical laboratories do not have this capability and I do not believe that it exists in Japan.

On return to St. Louis we will discuss with Dr. Munch the nature of this Japanese localized power factor problem and undertake tests to determine whether Kaneka's criticism of our material can be justified in general terms or whether it may be merely an opportunistic "smoke-screen" based on results from an isolated lot of material produced in 1967.

P. G. Benignus
Dielectric Fluids

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