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THE PRESENT STATUS AND FUTURE PLANS FOR
DEVELOPMENT OF THE PLASTIC INDUSTRY IN
THE REPUBLIC OF KOREA AND
TECHNICAL ASSISTANCE REQUIRED 1/

by

W.K. Sung

Daihan Ink + Paint Mfg. Co. Ltd.

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GENERAL ASPECTS

1. Korea's plastic industry may be divided into two groups: (1) thermo-setting resins manufacturing and (2) thermo-plastic resins manufacturing. The former developed from the plastics processing industry in the early 1960s while the latter emerged in the late 1960s when several PVC plants successively began operations.

Thermo-plastic resins manufacturing is far more important, despite its late appearance, and produces about 70 percent of domestic plastics output.

2. The thermo-plastic resins sector, at present, comprises seven plants. Four of them turn out PVC, and each of the remaining three polyethylene, polypropylene and polystyrene. These plants process intermediate petrochemicals which are partly supplied by domestic raw material manufacturers and partly imported from Japan. The domestic plastic resins production capacity in Korea is as shown in Table I.

Table I. Resins Production Capacity Per Year

	<u>Capacity (Metric Tons)</u>
Polyethylene	50,000
Polypropylene	30,000
Polystyrene	20,000
PVC	44,000
	<hr/>
Total	144,000

3. The thermo-setting resins sector consists of more than 20 small-sized plants. Their major products include phenol, urea,

and melamin resins. This sector has been losing its place in the plastic industry as the thermo-plastic resins makers are enjoying a far more rapid growth.

SUPPLY AND DEMAND

4. Please refer to Paragraph 5 in the text by Dr. Y. Ahn, another prospective participant in the seminar from this country.

RAW MATERIALS

5. Petrochemicals used as key intermediates in manufacturing petroleum-base plastics have recently started to be produced domestically. Most of the required materials which had earlier been imported mainly from Japan are now supplied by a petrochemical complex completed last March. The present capacity for domestic production of intermediates is shown on Table II.

Table II. Intermediates Production Capacity

	<u>Capacity Per Year (Metric Tons)</u>
VCM	60,000
Ethylene	100,000
Propylene	60,000

6. Raw materials for polyethylene and polypropylene come from the naphtha-cracking center of the petrochemical complex, and the VCM plant in the complex supplies raw materials for PVC. The complex is scheduled to begin turning out styrene monomer, the raw materials for polystyrene, from 1976. But according to an estimate of the government of the Republic of Korea, the capacities of such

petrochemical plants will only be level with the demand in the early 1970s. In other words, the plants will need additional expansions so as to meet ever-increasing demand for varied petrochemicals. This is particularly the case for VCM; the capacity of the VCM plant, which amounts to 60,000 tons a year, is somewhat below the expected VCM demand in 1973 which is estimated at 62,500 tons. The demands estimated are as shown in Table III.

Table III. Demand Estimate for Petrochemical Intermediates in Plastics Manufacturing

	<u>VCM</u>	<u>PVC Reduction to Ethylene</u>	<u>Polyethylene Ethylene</u>	<u>Polystyrene Styrene</u>	<u>Polypropylene Propylene</u>
1973	62,475	31,238	80,300	21,575	24,200
1974	74,550	37,275	96,250	26,770	29,700
1975	89,250	44,625	110,000	41,370	37,400

PRICE TREND

7. Among the major factors determining plastics demand are price conditions. This may be attributed to competition or to overlapping use among the various plastics. The price conditions, in turn, are determined by the availability of raw materials, enlargement of production scale, manufacturing process and technical innovations.

8. The comparative price levels of plastics in Korea and her neighbouring country Japan are shown in Table IV. A look at the table reveals that plastics price levels in Korea are from 9 to 24 percent higher than those in Japan. This has been made

Inevitable because of the smaller scale of production units in Korea compared with those in Japan.

9. In Korea, PVC is lower in prices than other plastics. The leading role of the PVC can be largely explained by its low prices.

Table IV. Comparative Price Level of Major Plastics

(In US Dollars per kilogram as of April 1973)

<u>Plastics</u>	<u>Korea</u>	<u>Japan</u>	<u>Korea/Japan (In Percent)</u>
PVC	0.35	-	-
PE (HD)	-	0.36	-
PE (LD)	0.42	0.34	123.5
PS (GP)	0.38	0.35	108.5
PS (HI)	0.46	0.377	122
PP (Film)	0.42	0.36	116.7
PP (Inj)	0.42	0.36	116.7

PROSPECTS

10. Korea's plastics industry is a late-comer in the recent industrial expansion, its full-scale development yet to be achieved. Nonetheless, the industry has undergone a significant expansion in the early 1970s. The establishment of a number of sizable new plants and the diversification of newly produced plastics have taken place, with the result that the domestic production of plastics can meet the domestic demand in most part.

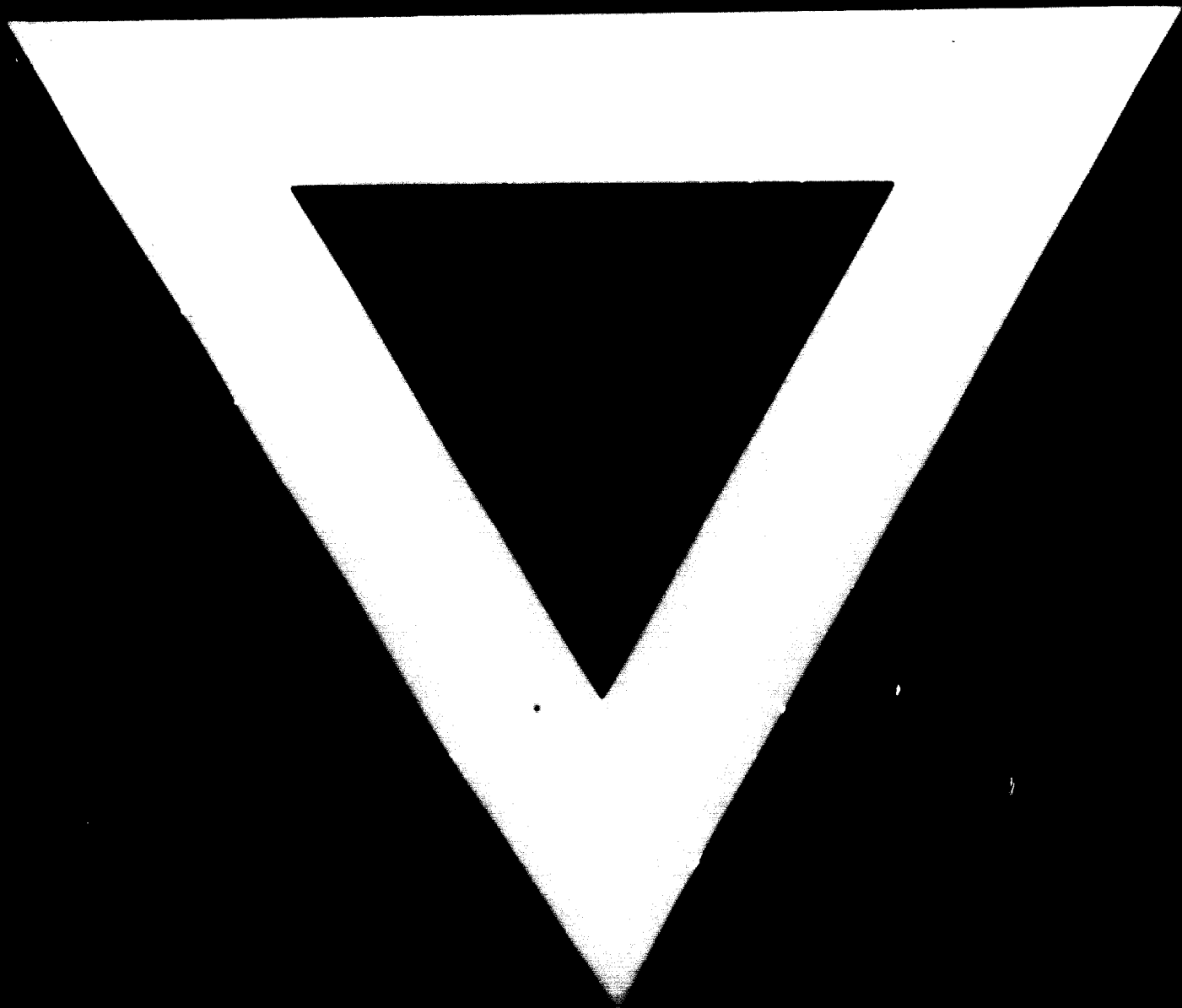
11. But since the domestic demand is expected to overtake the production capacities of the plants only within a few years, large-

scale expansion of the existing small-sized production units is being planned. And to back this up, another chemical industrial complex is being planned, and the plan is expected to become firm early this year.

TECHNICAL ASSISTANCE REQUIRED

12. In view of the expanding plastics industry, the most desired assistance apparently is in the field of training of technical personnel and managers on the efficient operation of the plants.
13. Mastering the techniques to run the plants as efficiently and economically as possible under the given conditions is believed to be an answer to make the products prices more competitive against those of Japan and other countries.





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