UC 149-2

PLAINTIFF'S EXHIBIT

UC-2205

UNION CARBIDE **INTERNAL CORRESPONDENCE**

CHEMICALS AND PLASTICS • RIVER ROAD, BOUND BROOK, NEW JERSEY 08805

Mr. W. C. Thurber
Metals
New York - 38th Floor

Date December 2, 1975 RECEIVED

Originating Dept. R & D DEC 4 1975

Answering letter date

Mr. R. E. Byrne - NF
Mr. E. J. Kleber - NF
Dr. M. S. Leung - BB
Dr. J. W. Lynn - BB
Dr. M. J. Michno - BB
Mr. J. L. Myers - NF

Subject Visit to General Electric Appliance Park, Louisville, Ky.-- November 13, 1975

Interviewed: Marvin Wilson-Plastics R&D
Ralph Hagan-Mgr., Plastics R&D
M.F. Clay-Mgr., Ind. Hygiene & Safety
Ed Conners-Mgr., Environmental Protection & Ind. Safety

Summary:

General Electric's Appliance Division (R&D and Manufacturing) is highly interested in RG-600/Polypropylene composites for several washer/dryer appliance parts. These compounds will replace present Glass/PP, Talc + Mica/PP and phenolic compounds. Subcontracted compounding of a 30% concentrate in PP is planned. Initial RG-600 volume is estimated at about 3/4 MM lbs/year. GE's industrial hygiene and safety people are concerned about OSHA requirements relating to regrinding operations but are quite willing to seek a workable solution in cooperation with UCC.

Recommendations:

This inquiry should receive #1 priority. 1) All RG-600 samples and concentrates sent to GE should be carefully pre-checked. 2) UCC assistance in compounding should be provided to suitable custom compounders (e.g. Shulman, Adell). 3) Assistance in meeting OSHA requirements should be provided to both GE and to the selected compounder(s).

Discussion:

On November 13, 1975, Mr. John Myers and the writer presented a seminar on 'Calidria' asbestos at the General Electric Company, Appliance Park, Louisville, Ky. The presentations were given at the invitation of the GE Plastics Laboratory and were held at the Major Appliance Laboratory Center. About twenty people representing GE

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manufacturing, engineering, safety and R&D attended. The seminar was arranged by E. J. Kleber, Calidria Sales and Marvin Wilson, GE R&D.

John gave a general overview of asbestos products and discussed current OSHA regulations. I reviewed RG-600 as a plastic reinforcement as contrasted with untreated chrysotile, fiberglass and other fillers and discussed our general formulating principles for RG-600 composites. The audience was exceptionally receptive--both the R&D and the production people were apparently very anxious to switch over to PP/RG-600 for several laundry appliance parts (see Table 2) where current compounds have caused performance problems. Evidently, early PP/RG-600 molding trials and part evaluations have been quite favorable and have confirmed the data and statements in our advertising literature. GE's immediate RG-600 requirements are about 3/4 MM lbs. They would purchase a 30 Wt% concentrate in PP to be let down as required during molding. They were also interested in our recommendations regarding compounders to supply the concentrate. Laboratory concentrates have been prepared satisfactorily at GE using a ZSK twin screw compounding extruder in their R&D laboratory.

GE's production and industrial hygiene/safety people are concerned about how to meet the OSHA requirements in their plant operations. All their molding machines have individual regrinding equipment and the question of possible asbestos dust generation during regrinding was raised. If the asbestos is well compounded, little if any asbestos dust should be generated during regrinding--however, it is recognized that the present OSHA test which counts any fibrous air contaminant over 5μ as asbestos may show some background count which makes the absence of airborne asbestos fibers difficult to prove. GE was not adverse to changing to a centralized regrinding operation but they were concerned about the possibility of continuous medical monitoring of the regrind operators. GE has a seniority system for their unionized labor force which causes frequent job changes. Hence, through future years quite a number of people could become involved in the regrinding operation and if continuous medical monitoring becomes necessary even after changes to other jobs this could become quite burdensome and expensive.

Since the future OSHA regulations and attitudes are obscure at this point, further official clarification may be needed. GE is willing and interested in cooperating with UCC on this and suggested that contacts with OSHA--possibly through SPI--might be beneficial. It was agreed that UCC and GE would cooperate on conducting preliminary air testing during regrinding trials at Louisville.

Mr. Hagan stated that GE is attempting systematically to substitute PP for impact polystyrene and ABS since they expect both price and availability increasingly to favor PP. Since RG-600 was developed specifically for PP and HDPE, this makes it a very interesting reinforcement for GE. The various sections of GE's Appliance Division in Louisville is shown in Table 1. The current work force is

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about 17,000 people. So far, only appliance parts for the home laundry section are being evaluated but possibilities exist in the other sections as well. The appliance parts currently being evaluated with PP/RG-600 are listed in Table 2 together with some brief comments on the materials being displaced.

A favorable resolution regarding chrysotile asbestos use at GE may open other potential opportunities for 'Calidria', e.g. in thermosets. The room air conditioner section uses large quantities of glass reinforced polyester (∿ RG-244) and most of the sections mold phenolics. Substitutes for asbestos in phenolic molding materials have not been too successful. Also, as an aside, I asked Mr. Hagan what he thought of a screw injection moldable phenolic with a 1-2 Izod. He was quite interested and would be very willing to evaluate such a material (this relates to UCC's 'fusible fiber' technology--I did not mention that, of course).

With the copies of this letter to Bill Thurber and Bob Byrne I have included some background information on A. Shulman, Akron and Adell Plastics, Baltimore. It would be timely to alert these compounders to GE's interest in PP/RG-600 concentrates--as well as to the independent interest of structural foam customers in HDPE/RG-600 concentrates. Assistance should be offered to these--and possibly other--compounders in meeting OSHA requirements in handling 'Calidria' asbestos (NF) and in achieving acceptable dispersion at economical compounding rates (BB).

In view of the large volume potential at GE this prospect should receive first business priority and dedicated technical service follow-up.

Fred H. Ancker

F. H. Ancker

FHA/cb

Enclosure

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TABLE 1

GE APPLIANCE DIVISION
Appliance Park, Louisville, Ky

Appliance Section	Building Complex
Home Laundry	1
Ranges	2
Dishwashers, Garbage Disposers	3
Refrigerator Components	4
Refrigerators	5
Room Air Conditioners	6
Central Air Conditioners	MABG(Texas)

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TABLE 2

GE APPLIANCE PARTS TARGETED FOR PP/RG-600
(numbers are approximate, subject to more detailed verification)

Item	Appliance Part	Appliance	#/Year	Part Weight	%RG-600	Totals Compound	Totals RG-600
1	Suspension pulley	Washer	3 MM	.15 lbs.	18	0.45MM lbs	0.08MM lbs
2	Impellers, top & bottom	Washer	2 "	.15 "	18	0.30 "	0.05 "
3	Blower wheels	Dryer	0.8 "	1.8 "	25	1.45 "	0.36 "
4	Pump housing	Coin-op Washer	0.5 "	2.8 "	15	1.40 "	0.21 "
						3.2 MM lbs	0.70MM lbs

UCC 004052

Notes:

(a) Items 1, 2 & 4 currently made from PP reinforced with 20% talc + 20% mica

(b) Item 3 currently phenolic. Was made earlier from glass reinforced PP but problems were encounted during molding (weld lines) and use (high noise level)

(c) All above parts are within home laundry section. Other near-term possible uses in dishwasher section.

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