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bcc: J. R. Fallon
cc: RJ

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July 13, 1970

Frito-Lay
P. O. Box 35034
Dallas, Texas 75235

Attention: Mr. Ken Sellers, Vice President-Engineering

Subject: Therminol FR-1 Food Cooking Systems

Dear Mr. Sellers:

As I understand it, during the next year, you are planning to phase out the Therminol FR-1 heat transfer systems with direct fired food cookers. Because these are key productions systems you would like to cover them with a back up charge of fluid. This can be accomplished in two ways. One, purchase a back minimum inventory of FR-1 now and hold in your warehouse until needed. Two, convert system to Therminol 66 if and when a problem develops.

The second method is the most practical as the fluids, in your system, are interchangable heat transferwise. A minimum amount of system clean out would be required prior to recharging with Therminol 66. No inventory would be required and stored and Therminol 66 is available from inventory from the point of manufacture, Anniston, Alabama. Also, I believe it is available in a local warehouse, Chicago and Detroit areas.

Enclosed is a copy of Monsanto's Therminol Applications Unlimited Bulletin. This gives a summary of the properties for both Therminol FR-1 and Therminol 66. You will note that the Therminol 66 weighs less than the FR-1 and pumping horse power will be less. The overall heat transfer coefficients for the inside film are approximately equal at similar temperatures and pumping rates.

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Therefore, there would be no large differences in heat transfer ability. Also, chemically they are compatible, that is some contamination of a Therminol 66 system with residual FR-1 will not react together adversely.

Trusting this information is sufficient for your current requirements, if you however have any additional questions please do not hesitate to contact me.

Very truly yours,

Roger F. Irwin
Senior Marketing Engineer
Organic Chemicals Division

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Enclosure

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