

Marshall J. Gravdahl

05/07/2003 08:31 PM

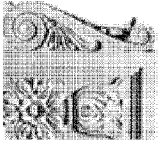
To: Dana M. Schnobrich/US-Corporate/3M/US@3M-Corporate
cc:
Subject: Re: PFOA Production

There are more process steps if you want to add more detail. We one-plate distilled the acid after fractionation (to remove trace metal contamination) and there is an ammoniation reaction step before the drying as we mostly sold the ammonium salt.

Also the more I thought about it, I remembered that Decatur did some fractionation of the acid fluoride cell crude (as FM-4644) for a few months. Robert Williams was the engineer in Decatur and could give more detail. I don't think Decatur did much if any fractionation of the C8 acid as it requires a tempered overhead and they never had that available for C8 acid as I recall.

Regards,

Marshall J. Gravdahl
0223-06-S-04
SMMD ADMIN
Tel: (651) 733-7308
Fax: (651) 736-7542
Dana M. Schnobrich



Dana M. Schnobrich

05/07/2003 02:55 PM

To: Michael A. Santoro/US-Corporate/3M/US@3M-Corporate
cc: Dean D. Dworak/US-Corporate/3M/US@3M-Corporate
Marshall J. Gravdahl/US-Corporate/3M/US@3M-Corporate
Subject: PFOA Production

Mike,

I talked briefly with Dean and Marshall regarding our manufacturing history for PFOA. My summary is intended to be general and we can get more specific if you have additional questions. The manufacture of PFOA involves four general steps:

1. Cell step
2. Stabilization (always done at same location as the cell step)
3. Fractionation
4. Drying

I think all of these could have involved environmental emissions. . . The table provided below contains some general information when activities took place at the site. We can get more specific if you would like. Marshall is gathering together some history around cell production and I can send this to you if you desire.

Plant	Cell Step	Stabilization	Fractionation	Drying
Cottage Grove	First cell run in the 1950's	Stabilization always conducted in	Yes	Only place that drying as ever been



		conjunction with the cell step.		conducted.
Decatur	Began cell runs in the late 1960's or early 1970's. During this period there was not a lot of PFOA made at Decatur. Decatur stopped making PFOA in the 1980's and did not reinitiate this activity until the late 1990's.	Stabilization always conducted in conjunction with the cell step.	Probably not. Decatur stabilized material was probably fractionated at Cottage Grove.	Never
Antwerp	Began cell operations in the 1980's. Not many runs, probably 1-2 per year to meet the European demand.	Stabilization always conducted in conjunction with the cell step	Yes	Never