

ROPES & GRAY

AR 226 - 1231

1301 K STREET, NW, SUITE 800 EAST WASHINGTON, DC 20005-7008 202-626-3900 F 202-626-3961
BOSTON NEW YORK SAN FRANCISCO WASHINGTON, DC

24pp

March 21, 2003

Mark A. Greenwood
202-626-3905
mgreenwood@ropesgray.com

Confidential Business Information Center (CBIC)
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
EPA East Building, Room 6428
1201 Constitution Avenue
Washington, DC 20004-3302

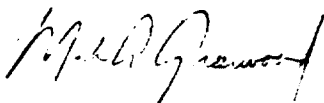
To Whom It May Concern:

On behalf of Daikin Ltd. and Daikin America (hereafter "Daikin"), I am submitting copies of a presentation that company representatives offered to staff of the Office of Pollution Prevention and Toxics on March 13, 2003. This package includes three copies of two documents: (1) the slides presented to the Agency on March 13, which include highly confidential proprietary information; and (2) a sanitized version of that same presentation that can be included in the docket known as AR-226. Daikin claims the first document as Confidential Business Information under all applicable statutes and regulations affecting voluntarily submitted information.

By way of clarification, we have made a few corrections to the slides that were provided at the March 13 meeting. We corrected an error in one CAS number provided for a fluoropolymer chemical, and we have modified some of the coloration in charts provided to make them easier to read if they are photocopied.

Please contact me at the address noted above if you have any questions, and I thank you for your attention to this matter.

Best regards,



Mark A. Greenwood



565274

2003 MAR 31 AM 10:17

RECEIVED
OFFICE



DAIKIN

March 13, 2003

Company Sanitized

Company Overview

Telomers

Industry

Products

Manufacturing

Polymers

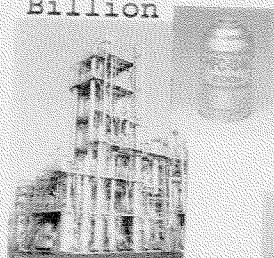
Products

Manufacturing

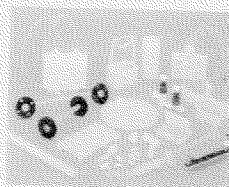
Other Issues

DAIKIN

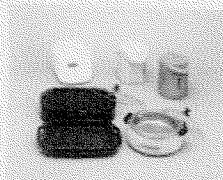
Chemicals : \$ 0.9
Billion



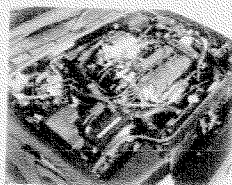
Fluorocarbons



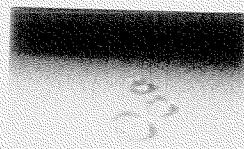
Fluoropolymers



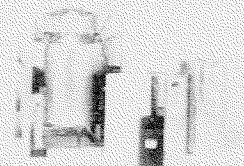
Coatings



Fluoroelastomers



Oil and Water repellent



Etching agents for semiconductors

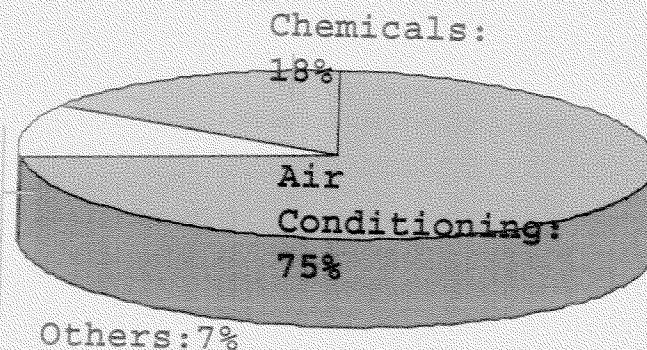
DAIKIN INDUSTRIES, LTD.

Air Conditioning : \$
3.6 Billion



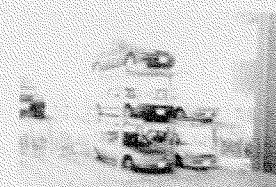
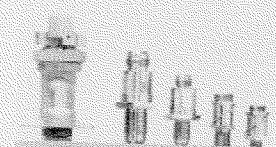
Net Sales (worldwide)

\$ 4.8
Billion
(¥110/\$)



Others

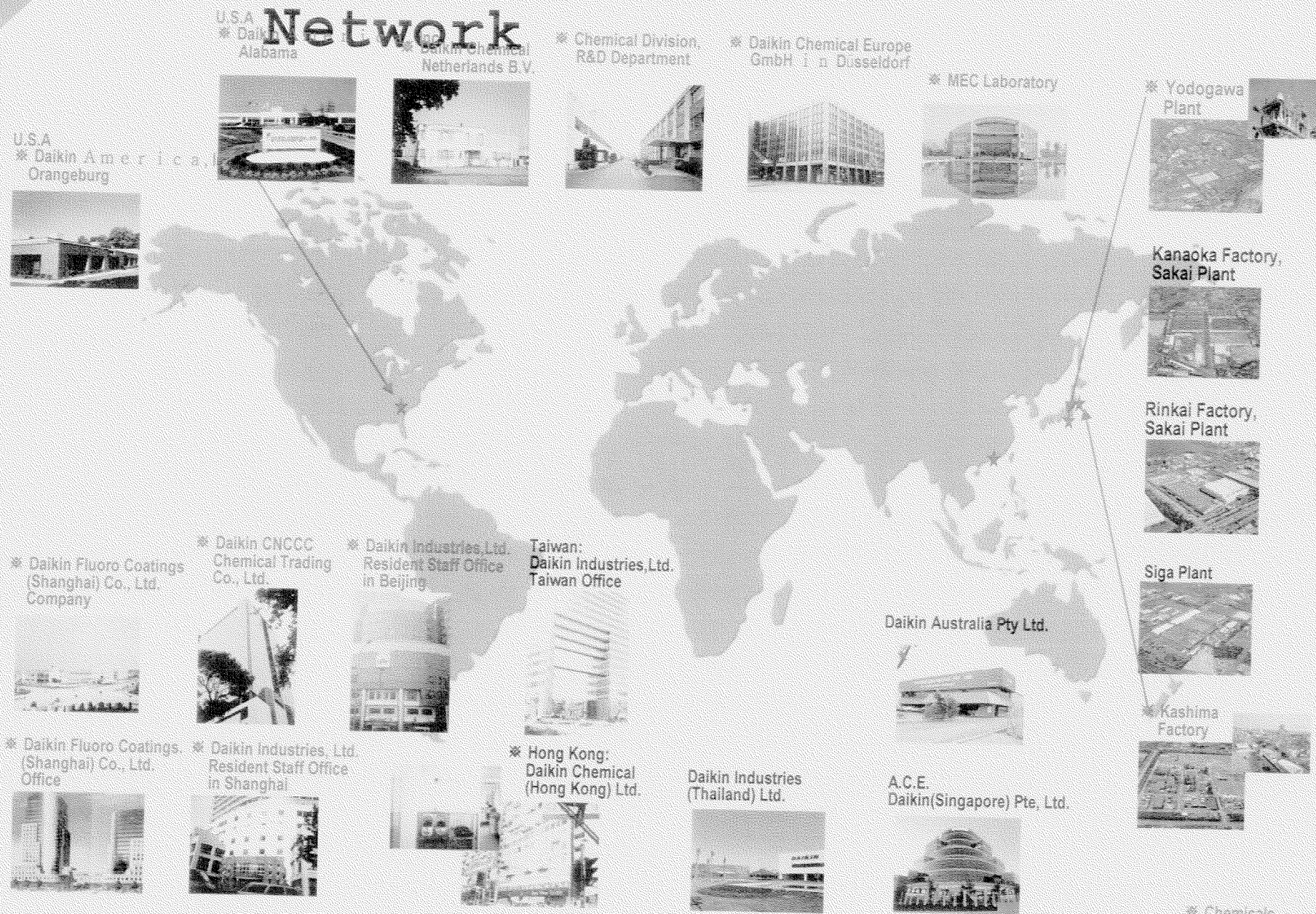
Net sales : \$ 0.3
Billion



DAIKIN

DAIKIN GROUP Global

Network



* Chemicals



DAIKIN AMERICA

Orangeburg, New York

Headquarters/ business office
55 employees

Decatur, Alabama

Telomer polymerization
Fluoropolymer manufacture
300 employees
In operation for 10 years

U.S. Telomer Industry Players

Primary Manufacturers

DuPont (Integrated monomer/polymer manufacture)

Daikin (Polymerization of imported monomers)

Clariant (Import of own polymers)

Asahi (Import of own polymers)

Other Manufacturers

Dai-nippon Ink (Japan manufacture, distribution in US?)

Nihon Mektron (Japan manufacture, distribution in US?)

Formulators

Repellents (10-20)

Surfactants (many)

Telomer Product Lines

Repellent Products 80% of telomer market

Carpet products (mill, commercial after market,
consumer after market)

Textile products (clothing, upholstery, nonwoven

Porous mineral products (stone, masonry, concrete)

Paper products

Surfactants 20% of telomer market

Fire fighting foam, floor polish wetting,

Photo film wetting, ink and paint levelers

Others

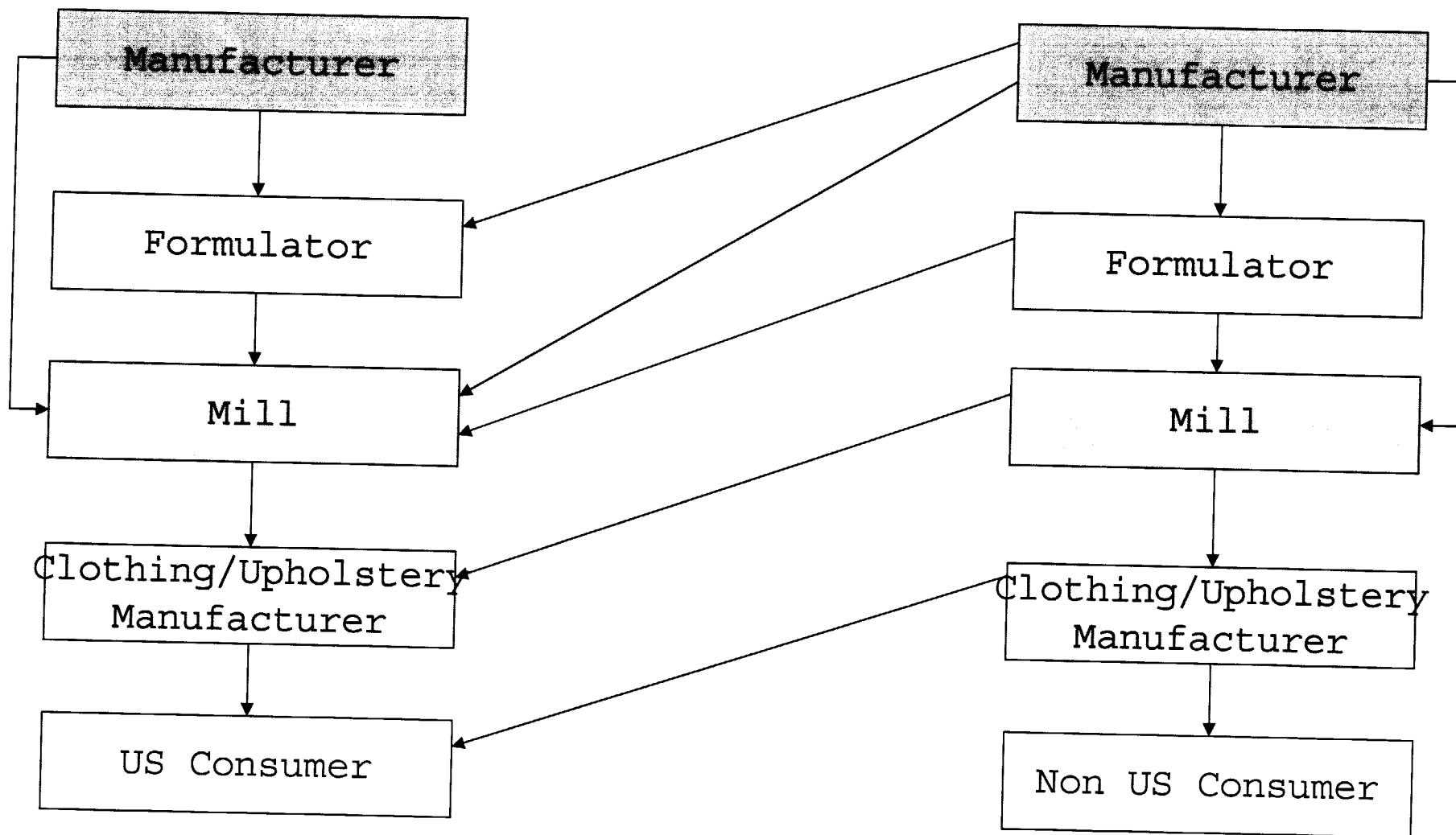
Mold Release

Current Daikin Products

Textiles

USA

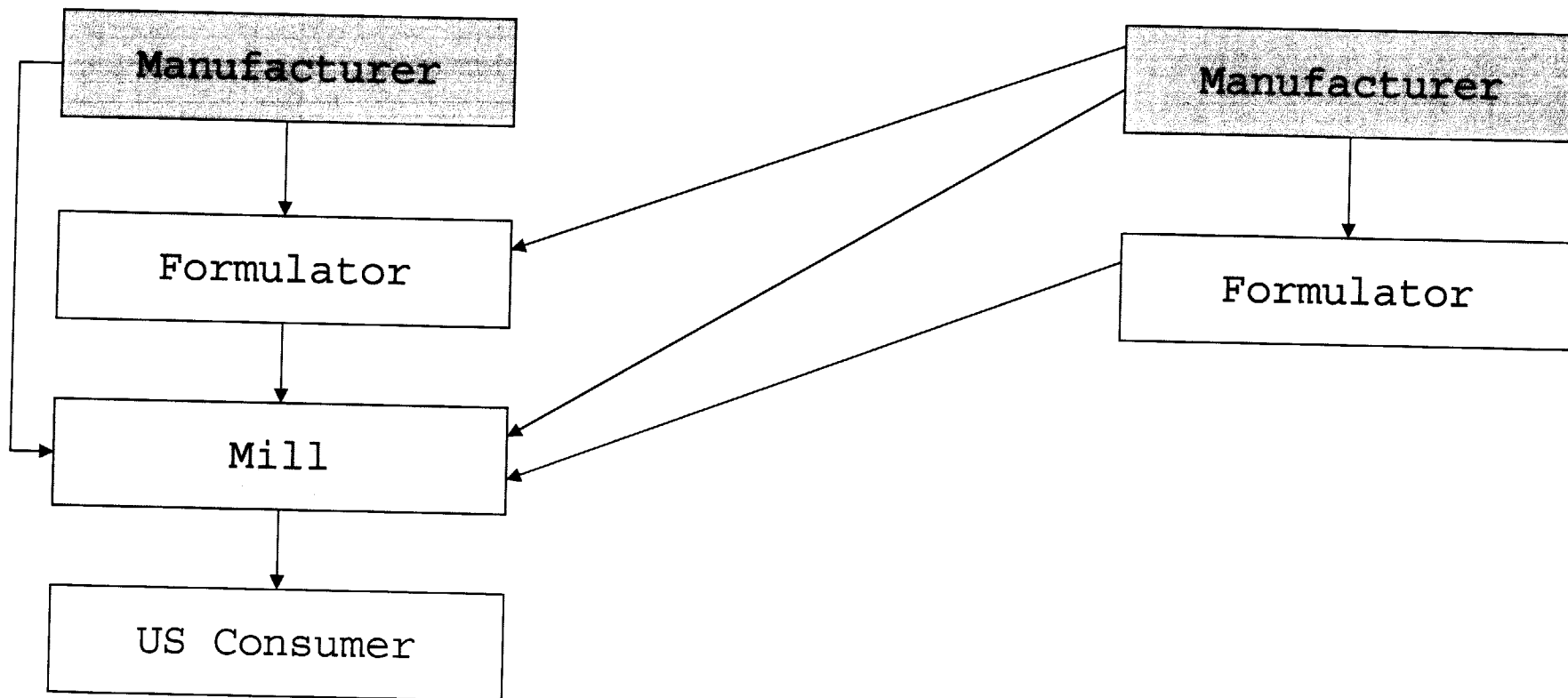
Overseas



Carpet/Paper

USA

Overseas





CAS Numbers of Daikin's Telomer Products

(2002)

Applications and Distribution (2002)

Product No.	Typical Application
Textile	
TG012	Leather
TG470	Apparel
TG472	Apparel
TG5011	Apparel
TG532	Apparel
TG563G	Upholstery
TG571	Apparel
TG573	
TG652	Commercial Renewer
TG656	Commercial Renewer
TG770	
TG991	Apparel
TG992	Apparel
TG3020	
TGKC01	
Subtotal	
Carpet	
TG3520	Carpet
TG3020	Carpet
TG3010	Carpet
TG3310	Carpet
TG3311	Carpet
TG3360	Carpet
TG452A	Carpet
TG470	Carpet
TG472	
TG571	Carpet
Telomer	
Total	



CAS Numbers of Daikin's Telomer Products

(2003)

Applications and Distribution (2003)

Product No.	Typical Application
Textile	
TG180	
TG470B	Apparel
TG470H	Apparel
TG472	
TG472A	
TG5011	Apparel
TG532	
TG563G	Upholstery
TG571	Apparel
TG573	
TG575	Apparel
TG656	
TG770	
TG815	Paper
TG991	Apparel
TG992	Apparel
TG3020	
TGKC01	
TGKC02	
Subtotal	
Carpet	
TG3550	Carpet
TG3020	Carpet
TG3311	Carpet
TG3360	Carpet
TG452A	Carpet
TG470B	Carpet
TG571	Carpet
Telomer	
Total	



Telomer Production Process

Japan

U.S.



Exposures and Wastes

Japan

E
x
p
o
s
u
r
e
s

W
a
s
t
e

U.S. s

Fluoropolymers produced at Decatur Plant

1. Emulsion Polymerization (With APFO)
 - PTFE Fine Powder
 - PTFE Dispersion

2. Suspension Polymerization (Without APFO)
 - PTFE Granular
 - FEP
 - ETFE



Fluoropolymers made with APFO that are sold in the U.S.

1. PTFE Fine Powder
Daikin-Polyflon PTFE
2. PTFE Dispersion
Daikin-Polyflon PTFE
3. PTFE Low molecular
Daikin-Polyflon PTFE; Lublon
4. FEP Dispersion
Neoflon FEP Dispersion
5. Fluoropolymer Paint Base
ZEFFLE
6. Fluoroelastomer
DAI-EL Series

Main Application for Fluoropolymers made with APFO

1. PTFE Fine Powder
expanded membrane, wire/cable, tubing and fuel hose
2. PTFE Dispersion
base for enamel and impregnation
3. PTFE Low molecular Weight
additives
4. FEP Dispersion
base for enamel
5. Fluoropolymer Paint Base
architectural paint
6. Fluoroelastomers
fuel hose, valve stem and tubing



Decatur Plant Stewardship

- PFOA Industrial Hygiene Assessment of processes using PFOA conducted in 2001 to establish baseline exposure data
 - Air samples all well below ACGIH TLV
 - Potential exposure areas identified
 - Engineering controls were installed
 - PPE requirement changed
 - Training conducted employees on proper handling of PFOA
- Conducted baseline analysis of PFOA in blood of workers in 2001



Decatur Plant Stewardship

- Blood testing repeated in 2002 and significant reduction (>30%) was observed
- Continuing industrial hygiene assessment
- Plant has ongoing project to recycle waste PFOA to reduce emissions to environment



PFOA Mass Balance



Decatur Fine Powders/Dispersion Process

DAIKIN



Fine Powders PFOA Mass Balance



Decatur Alabama

- Two fluorochemical producers, Daikin and 3M, are next door neighbors
- Daikin plant is built on property purchased from 3M