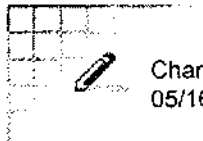


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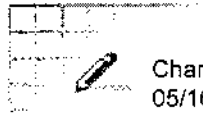
Charles Auer  
05/16/2000 11:11 AM

To: Barbara Leczynski/DC/USEPA/US@EPA, Mary Dominiak/DC/USEPA/US@EPA, Frank Kover/DC/USEPA/US@EPA, Ward Penberthy/DC/USEPA/US@EPA, Karen Lannon/DC/USEPA/US@EPA

cc:  
Subject: Phaseout of PFOS

fyi

----- Forwarded by Charles Auer/DC/USEPA/US on 05/16/2000 11:17 AM -----



Charles Auer  
05/16/2000 11:06 AM

To: Charles Auer/DC/USEPA/US@EPA, binetti@iss.it, John.Buccini@ec.gc.ca, "IMCEAFAX-3001+5ECHADJICHRISTIDI+2C+20Konstantina-fax+5E3A23+5E3018662968+5E"@oecd.org, shchung@me.go.kr, theresa.gilgallon@cec.eu.int, addeke@iss.it, karen\_florini@edf.org, amst@baua.do.shuttle.de, bjorn.hansen@jrc.it, hasa@env.cz, mark.hyman@ea.gov.au, "IMCEAFAX-3001+5EICONOMOU+2C+20Maria+5E3A23+5E3016465123+5E"@oecd.org, geir.jorgensen@sft.telemax.no, Rainer-Kurt.Koch.RK@bayer-ag.de, Thaly.Lakhanisky@iph.fgov.be, ivarl@kemi.se, majka@bware.imp.lodz.pl, matejova.jana@flora.lifeenv.gov.sk, TM-TNG@mhw.go.jp, laurence.musset@environnement.gouv.fr, jrn@mst.dk, esa.nikunen@vyh.fi, carla.piccinni-leopardi@cec.eu.int, raimund.quint@bmu.gv.at, rosenbaum@biac.org, esilber@epi.umaryland.edu, urs.staempfli@buwal.admin.ch, nagata-reiko@miti.go.jp, roger\_tregunno@detr.gsi.gov.uk, Hty@mst.dk, ungvary@elender.hu, kees.van.Leeuwen@rivm.nl, vickersc@worksafe.gov.au, jwillis@unep.ch, younesm@who.ch, Dian.TURNHEIM@oecd.org, Naoyuki.YASUDA@oecd.org, Lesley.ONYON@oecd.org, Oscar Hernandez/DC/USEPA/US@EPA

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Subject: Phaseout of PFOS

I would like to draw your attention to an important development in the US which concerns a persistent, bioaccumulative, and toxic chemical. I will be approaching the OECD Secretariat about setting up a discussion opportunity at some point during the upcoming meeting of the Task Force on Existing Chemicals. A brief summary of the information follows below and this is accompanied by a number of documents which provide additional information (EPA's press statement, 3M's press statement, and several reports submitted to EPA by 3M which provide more detailed background information). The reports from 3M will follow separately as .pdf files and are not being sent to the cc's.

Following negotiations with EPA, 3M Corporation today announced that it will voluntarily phase out perfluorooctanyl sulfonate (PFOS) chemistry, which is used to manufacture a wide range of products. This announcement is the result of a successful production stewardship effort between 3M and EPA. EPA supports this effort which began as a result of data 3M supplied to the Agency which indicated that these chemicals are very persistent in the environment, have a strong tendency to accumulate in human and animal tissues and, based on recent information,

could potentially pose a risk to human health and the environment over the long term. The company plans to exit worldwide from production of these chemicals by the end of the year.

PFOS (perfluorooctane sulfonic acid) is a member of a large family of sulfonated perfluoro-chemicals (total annual production < 5 million kgs) which are used for a wide variety of industrial, commercial, and consumer applications (including use as a component of soil and stain-resistant coatings for fabrics, leather, furniture, and carpets (under the Scotchgard line), in fire-fighting foams, commercial and consumer floor polishes, cleaning products, and as a surfactant in other specialty applications); pesticidal and indirect food use products are also made from this technology. Final formulations for these uses contain less than 1% of the PFOS chemicals. All of these chemicals have the potential to degrade back to PFOS which does not appear to degrade further (it is thus highly persistent). 3M Corporation is the sole US manufacturer of the PFOS family of chemicals; 3M also has a production facility in Belgium. Available information suggests that there may be production facilities in Italy, Germany, Japan, and the Russian Federation, although 3M appears to be the dominant producer.

PFOS has been found widely in human blood samples (ppm levels in manufacturing workers, ppb levels in non-exposed workers and in blood bank samples. PFOS has also been found in wildlife species across the US (especially in fish eating birds) and in the Baltic in Sweden. It was detected in naive (unexposed) laboratory rats (the PFOS contamination was traced back to fish meal used in the rat chow).

PFOS caused postnatal deaths (and other developmental effects) in offspring in a 2-generation reproductive effects rat study (NOAEL of 0.1 mg/kg/day and LOAEL of 0.4 mg/kg/day). At higher doses in this study, all progeny in first generation died while at the LOAEL many of the progeny from the second generation died. It is very unusual to see such second generation effects.

PFOS accumulates to a high degree in humans and animals. It has an estimated half-life of 4 years in humans. It thus appears to combine Persistence, Bioaccumulation, and Toxicity properties to an extraordinary degree.

Several years ago, in response to the blood findings, 3M launched a major research effort on PFOS to characterize its environmental presence, environmental and human effects, and environmental fate.

#### **EPA REVIEW**

Preliminary data indicated to EPA that PFOS is of significant concern on the basis of evidence of widespread human exposure and indications of toxicity in a 2 generation rat study. In addition, EPA's preliminary risk assessment indicated potentially unacceptable margins of exposure (MOEs) for workers and possibly the general population. There are many assumptions and considerable uncertainty in these arguments and analyses. It is not possible at present to judge the adequacy or accuracy of the MOE analyses or whether the exposure levels used in the above estimations may be considered representative of the affected populations at large. EPA requested detailed information from 3M and a large body of information has been received but

not reviewed.

3M has raised questions regarding the possible relevance to humans of a proposed mechanism (effects on cholesterol biosynthesis) for PFOS's lethal effect in the 2-generation study. The proposed mechanism, the company argues, affects reproductive outcomes in litter bearing animals due to its inhibitory effect on a burst of cholesterol biosynthesis in the critical period just before birth. The proposed mechanism would, if demonstrated, have broad implications for and present significant potential concerns for humans and environmental organisms.

### **RECENT DEVELOPMENTS**

Following a series of discussions with EPA, and based on concerns about the widespread presence and longer term risks presented by PFOS, 3M decided that it would exit worldwide from this market by about the end of the year, although it may need to extend the time period for some critical uses (e.g., fire fighting foam). The company had previously launched a major research efforts on PFOS to provide an in-depth understanding of the problem and its human and environmental consequences; this research effort would be continued despite the commercial decision. 3M has expressed interest in collaborative efforts with EPA as they withdraw from the market and in the development of safer substitutes.

### **NEXT STEPS FOR EPA**

EPA is preparing a communications strategy for conveying clear messages in response to 3M's announcement. We will be alerting other US Agencies (FDA, CPSC, OSHA, NIOSH), OECD governments, and international agencies (UNEP, IPCS). We do not believe that PFOS presents an imminent harm from use in consumer products during the phaseout (it is used in high molecular weight polymers which do not appear to result in exposure to PFOS during normal use; residual PFOS contamination occurs at very low levels). At the same time, we agree that continued manufacture and use of PFOS represents an unacceptable technology that should be eliminated to protect human health and the environment from potentially severe long term consequences. Regulatory action would have been difficult and time consuming at best and, given EPA's view that a rapid phase out is necessary and appropriate, EPA believes that 3M has taken a responsible corporate decision in quickly moving away from this technology.

EPA is currently examining appropriate regulatory steps necessary to ensure protection of human health and the environment.

### **PFOA**

PFOA (perfluorooctanoic acid) is closely related structurally to PFOS and is used as a solvent for certain polymerization reactions. EPA has requested information from producers and will be preparing an assessment. Based on preliminary information, PFOA presents a different hazard, exposure, and risk picture compared to PFOS. 3M has also committed to ending production of PFOA. There are other producers in the US and EPA is examining its options regarding action on PFOA.

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EPA Press Statement  
May 16, 2000

Following negotiations between EPA and 3M, the company today announced that it will voluntarily phase out and find substitutes for perfluorooctanyl sulfonate (PFOS) chemistry used to produce a range of products, including some of their Scotchgard lines. 3M data supplied to EPA indicated that these chemicals are very persistent in the environment, have a strong tendency to accumulate in human and animal tissues and could potentially pose a risk to human health and the environment over the long term. EPA supports the company's plans to phase out and develop substitutes by year's end for the production of their involved products.

"Today's phaseout announcement by 3M will ensure that future exposure to these chemicals will be eliminated, and public health and the environment will be protected," said EPA Administrator Carol M. Browner. "EPA will work with the company on the development of substitutes to ensure that those chemicals are safe for the environment. 3M deserves great credit for identifying this problem and coming forward voluntarily."

PFOS chemicals are used to produce a range of products from fire fighting foams, coatings for fabrics, leather, and some paper products, to industrial uses such as mist suppressants in acid baths. The company is continuing a major research effort on these chemicals to enhance the understanding of any potential risks that may be associated with this class of chemicals. EPA will also be evaluating the chemicals to determine how individuals and the environment are exposed and what potential adverse effects may exist. If future regulatory actions are required, EPA will take them.

At present, 3M is the only US manufacturer of PFOS. EPA will be contacting foreign governments and other chemical manufacturers, both domestically and internationally, to seek their support for a voluntary phaseout of PFOS and related chemicals.

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PFOS 3M pre

## **3M News**

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### **FOR IMMEDIATE RELEASE**

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651-736-1915

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### **3M Phasing Out Some of its Specialty Materials**

**ST. PAUL, Minn. – May 16, 2000 –** 3M today announced it is phasing out of the perfluorooctanyl chemistry used to produce certain repellents and surfactant products.

The affected product lines represent about two percent of 3M's nearly \$16 billion in annual sales. These include many Scotchgard™ products, such as soil, oil and water repellent products; coatings used for oil and grease resistance on paper packaging; fire-fighting foams; and specialty components for other products. 3M said it plans to substantially phase out production by the end of the year and will work with customers to accomplish a smooth transition.

"Our decision anticipates increasing attention to the appropriate use and management of persistent materials," said Dr. Charles Reich, executive vice president, Specialty Material Markets. "While this chemistry has been used effectively for more than 40 years and our products are safe, our decision to phase out production is based on our principles of responsible environmental management."

"We're reallocating resources to accelerate innovation in more sustainable opportunities and technologies. This decision is not only in the public interest, it's in the best interests of all our constituencies ... our employees, customers, communities and investors," Reich said.

Sophisticated testing capabilities – some developed in only the last few years – show that this persistent compound, like other materials in the environment, can be detected broadly at extremely low levels in the environment and in people. All existing scientific knowledge indicates that the presence of these materials at these very low levels does not pose a human health or environmental risk.

***3M Phasing Out Some of its Specialty Materials - Page Two***

About 1,500 out of 3M's global work force of 71,000 employees have jobs associated with these products. "Innovation at 3M is at an all-time high, and there are many great opportunities for employees across the company," Reich said.

3M expects to meet consensus earnings estimates for the rest of 2000. This excludes a one-time charge on the order of \$200 million, that will be taken sometime this year.

"Our growth engines are more powerful than ever and we're confident in our ability to continue delivering on expectations," said L.D. DeSimone, chairman and CEO. "Many of our new technology platforms directly address the fastest-growing segments of the new economy such as electronics, telecommunications and flat-panel displays."

"We expect the positive momentum in our financial performance to continue into 2001 with earnings somewhat above current analyst estimates," DeSimone said.

3M is a leading manufacturer of innovative products for industrial, consumer, transportation, safety, health care and other markets, with operations in more than 60 countries worldwide. The company is well known for its "Pollution Prevention Pays" environmental initiative, and its emission reduction programs including water-based replacement of solvents in manufacturing and replacements for ozone-depleting chlorofluorocarbons (CFCs).

**Forward-Looking Statements**

Certain portions of this news release that do not relate to historical financial information constitute forward-looking statements. These forward-looking statements are subject to certain risks and uncertainties. Actual future results and trends may differ materially from historical results or those expected depending on a variety of factors, including: (1) worldwide economic conditions; (2) foreign exchange rates and fluctuations in those rates; (3) the timing and acceptance of new product offerings; (4) raw materials, including shortages and increases in the costs of key raw materials; and (5) legal proceedings.

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