

Date: 30-Dec-1988 06:31pm CST
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TO: CHASMAN, JON N @PROFS @SSWMB @QUIGLY
TO: KILLIAN, MICHAEL E @PROFS @SSWMB @QUIGLY
TO: PIKE, MIKE T @PROFS @SSWMB @QUIGLY

Subject: FC-129 Biodegradability

To: US009762--USSP01 MIKE T PIKE US082710--USSP01 MICHAEL E KILLIAN
US105996--USSP01 Jon N Chasman

FROM: Don Ricker - US053491 - USSP01
Specialty Chemical Division QA - 236-1B-10 (733-2488)

Subject: FC-129 Biodegradability

IF YOU DECIDE TO PROCEED WITH THIS TESTING, PLEASE HAVE THE SAMPLES
SUBMITTED THROUGH ME. BY MEANS OF THIS MEMO I AM NOTIFYING E. REINER
THAT MIKE KILLIAN, JON CHASMAN ARE THE RESPONSIBLE PARTIES FOR THE
SURFACTANT LINE OF PRODUCTS.

Regards,

Don Ricker

*** Forwarding note from US047816--ALLIN1 12/30/88 14:40 ***

From: REINER,ERICA@A1@EISM

To: US009762__USSP01 MIKE T PIKE
GE071524__GEVMC REESE DETLEF

Subject: FC-129 Biodegradability

With this memo I am:

1) Requesting ICP Division authorization to conduct OECD screening
tests to clarify the biodegradability of fluorochemical surfactants
FC-129 and FC-170c. The proposed tests will use high temperature-TOC,
UV-TOC, and MBAS or BIAS analysis

2) Commenting on point 4. a) of the attached memo from Detlef Reese
dated 27-Dec-1988.

I don't think it is in 3M's long-term interest to perpetuate the myth
that these fluorochemical surfactants are biodegradable. It is
probable that this misconception will eventually be discovered, and
when that happens, 3M will likely be embarrassed, and we and our
customers may be fined and forced to immediately withdraw products
from the market.

If 3M wants to continue to sell and use fluorochemical surfactants as
low level specialty components in cleaning products, I believe that 3M
has to accurately describe the environmental properties of these
chemicals and then lobby in each EEC nation for the adoption of
regulations that exempt low level specialty uses. The already adopted
German surfactant biodegradation regulation quite clearly does not
exempt specialty uses of nonbiodegradable surfactants.

3M now find itself "trapped" in a situation where it can not lobby the authorities for exemptions because the German authorities currently think that (at least some) fluorochemical surfactants are biodegradable. If we don't correct this misconception and lobby for exemptions, other EEC nations are likely to develop regulations based on this restrictive German model.

Background

In 1984 3M German had an outside laboratory, Research Consulting Company AG (RCC), conduct OECD screening tests on two fluorochemical surfactants, FC-129 and FC-170C. I had previously requested authorization to conduct EEC approved tests on fluorochemical surfactants, but the Commercial Chemicals Division in St. Paul refused to support or approve such testing. The Division refused approval because the 3M position was, and I believe still is, that 3M fluorochemical surfactants, such as FC-129 and FC-170C, fall outside the intended range of the EEC Directive on surfactant biodegradability because they are used for "specialty" purposes not as "detergents," i.e., surfactants that emulsify and thus remove dirt in cleaning products. The Division felt that conducting these tests would imply that 3M agreed that EEC biodegradation restrictions applied to specialty fluorochemical surfactants and would weaken our arguments asking for their exemption from these restrictions. A second reason for refusing to conduct these tests was that it was considered certain that the results would show the fluorochemical surfactants are not biodegradable. The Division couldn't see a benefit of generating this negative data.

The RCC study showed that FC-129 was 90% biodegraded, but they measured TOC using a Technicon Autoanalyser II which uses a UV-persulfate digestion method that is inappropriate for fluorochemicals. Actually, any TOC analytical method is not in strict accordance with the German regulation which calls for MBAS or BiAS analysis, but the representative of an analytical lab in Germany told us that despite the regulation, some authorities prefer TOC analysis because they think (and in this case incorrectly) that TOC analysis is more likely to indicate complete degradation.

Detlef Reese immediately provided me with the RCC results, but the Division did not approve of my proposed response. Detlef Reese thus submitted these results to the German authorities who accepted and believed them. In fact, the German authorities have published a document on surfactant biodegradability in which they state that some fluorochemical surfactants are biodegradable and others are partially biodegradable. While the statement does not reference the 3M data, Detlef Reese believes it probably is based on the 3M data submission.

Best regards,

Eric Reiner

cc: US018376__ALLIN1 EACON, DALE L
 US053491__USSP01 DON RICKER

cc: US047816--ALLIN1 REINER, ERIC A