

REDACTED

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Exposed To MSF
Maintain them more active environmentally

Interoffice Correspondence



22

Subject: Fluorochemicals in Blood

November 3, 1977

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FROM: J.W. BELISLE - 201-1S

Introduction

A 50 ml whole blood sample was drawn (using multiple 10 ml Vacutainers) and serum isolated from eight 3M employees at Chemolite, seven of which were sampled previously. An analysis for organic and inorganic fluoride (reported in this letter) and FC-143 and FC-95 content (to be reported later) on each serum sample was requested.

Results

Sample	1976 ^①		1977 ^②	
	RF (ppm)	F ⁻ (ppm)	RF (ppm)	F ⁻ (ppm)
Literature Range	0.002-0.13	0.003-0.17	0.002-0.13	0.003-0.17
Literature Average	0.03	0.02	0.03	0.02
E1 <i>Formosa</i>	REDACTED	38.8	40.5	0.03
E2 <i>Formosa</i>	REDACTED	24.7	20.1	0.02
<i>Formosa</i> <i>25 years</i>	REDACTED	42.3	28.8	0.01
<i>Formosa</i> <i>15-20 years</i>	REDACTED	16.2	11.0	0.02
<i>Formosa</i> <i>10 years</i>	REDACTED	13.9	9.6	0.02
<i>Formosa</i> <i>7-8 years</i>	REDACTED	5.9	5.8	0.02
<i>Formosa</i> <i>20 years</i>	REDACTED	9.3	6.1	0.04
<i>Formosa</i> <i>27 years</i>	REDACTED	-not sampled-	13.8	0.01

① Serum samples received between July and November, 1976.

② Serum samples received October, 1977.

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6 years in FC Production 25.4

0.03

1 year Clinical - Very strong Cold Corrosion - 1st Mt.

Exhibit
1146

State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

3MA00967424

1146.0001

Discussion

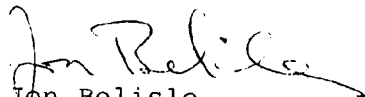
Somewhat surprising, all 7 persons who were previously sampled had the same or a slightly lower organic fluoride (RF) content a year later. This can be interpreted in one of several ways:

(a) the employees were not exposed to any high RF levels as they have been in the past.

(b) different people, when exposed to ~~the same level~~ of RF, retain the compound(s) to a different degree (homeostasis).

(c) since the levels reported range to 1000 times the "accepted" average in the general public for RF in human serum/plasma and since the levels have remained fairly constant, it takes the body a long, long time to clear bound RF. *But are not these individuals being exposed to Fes as before??*

(d) since it is understood that the health of these employees is normal, it is not clear what biological or chemical test, other than our RF analysis, would indicate the employee is carrying such a high level of bound fluoride and especially the significance of the finding.


Jon Belisle
/jz