



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

DATE:

SUBJECT: Request For A Provisional Oncogenic Risk Assessment  
For Applicators Using ALIETTE On Turf

TO: Henry Jacoby, PM #21  
Registration Division (TS-767)

FROM: Carolyn Gregorio, Toxicologist *ctg*  
Toxicology Branch/ HED (TS-769) *10-31-85*

THRU: Clint Skinner, Ph.D. *Clint Skinner*  
Section Head, *10-31-85*  
and  
Theodore M. Farber, Ph.D.  
Branch Chief,  
Toxicology Branch/ HED (TS-769)

Chemical: ALIETTE (Fosetyl-Al)

Caswell No.: 12b

Petition No.: N/A

Accession No.: N/A

Identifying No.: 359-706

Petitioner: Rhone-Poulenc

Action Requested: Provide a provisional oncogenic risk assessment  
for mixer/loader and applicators using ALIETTE on turf (sod and  
golf courses).

Background: ALIETTE is an oncogen in rats (2-Year Chronic  
Toxicity and Carcinogenicity Study in Rats, IKDC Study No.  
347-016, March 27, 1981). Transitional cell carcinoma of  
the urinary bladder was observed in the 40000/30000 ppm males  
(highest dose tested) and pheochromocytoma was observed in  
the 8000 and 40000/30000 ppm males.

The adrenal tumors were "considered to be more important by L. Kasza, Toxicology Branch Pathologist, than the bladder tumors because the adrenal tumors were found to occur in significantly elevated proportion in both the mid and high dosed groups as opposed to the bladder tumors which occurred at statistically significantly higher incidence only in the high dose group (memo, B. Litt to H. Jacoby, April 19, 1985). Therefore, the  $Q^*$  is expressed as  $4.3 \times 10^{-3}$ .

Conclusion: It should be noted that a reentry interval for use of ALIETTE on turf has not been reported. The provisional oncogenic risk estimates for use of ALIETTE on turf are as follows:

Table 1. Mixer/Loader (Dermal)

Work Category	A Total Year Exp. mg/kg/yr	B Working Lifetime mg/kg/d	C Dermal Ab. Correction mg/kg/d	D Risk Estimate
<u>Sod Farm</u>				
- low	56.0	0.1534	0.00150	$6.4 \times 10^{-6}$
- high	74.0	0.2027	0.00200	$8.6 \times 10^{-6}$
<u>Golf Course</u>				
- low	21.0	0.0575	0.00058	$2.4 \times 10^{-6}$
- high	28.0	0.7671	0.00077	$3.3 \times 10^{-6}$

A = memo, Reinert to Jacoby (9-6-85); see Table 2, page 3 of the memo for exposure values. Assumes protective clothing of long sleeve shirt, long trousers, gloves. Rate is 4 oz A.I./acre, 6 times yearly (low rate) or 8 oz A.I./acre, 4 times yearly. See Table 2, page 3 of memo for values.

B = memo, A. Barton (6-23-83) assumes 35 years in a 70 year lifetime as an exposure period and divides exposure by 365 for daily exposure.

C = memo, Gregorio to Jacoby (11-20-84) assumes 1% dermal penetration.

D = memo, Litt to Jacoby (4-19-85) gives  $Q^*$  as  $4.3 \times 10^{-3}$ .

Table 2. Applicator (Dermal and Inhalation)

Work Category	DERMAL EXPOSURE			INHALATION EXP			D Total Dermal and Inhalation mg/kg/day	E Risk Estimate
	A	B	C	A	B	D		
	Total Yr Exposure mg/kg/yr	Working Lifetime mg/kg/day	Dermal Ab. Correction mg/kg/day	Total Yr Exposure mg/kg/yr	Working Lifetime mg/kg/day	Total Dermal and Inhalation mg/kg/day		
<u>Sod-Farm</u>								
- low	51.0	0.1397	0.0014	0.22	0.0006	0.0020	8.6x10 <sup>-6</sup>	
- high	100.0	0.2740	0.0027	0.30	0.0008	0.0035	1.5x10 <sup>-5</sup>	
<u>Golf Course</u>								
- low	29.0	0.0795	0.0008	0.08	0.0023	0.0010	4.3x10 <sup>-6</sup>	
- high	38.0	0.1041	0.0010	0.11	0.0003	0.0013	5.5x10 <sup>-6</sup>	

A = memo, Reinert to Jacoby (9-6-85); see Table 3, page 4 for exposure values. Assumes protective clothing of long sleeve shirt, long trousers, gloves. Rate is 4 oz A.I./acre, 6 times yearly (low rate) or 8 oz A.I./acre, 4 times yearly (high rate).

B = memo, A. Barton (6-23-83) assumes 35 years in a 70 year lifetime as an exposure period and divides exposure by 365 for daily exposure.

C = memo, Gregorio to Jacoby (11-20-84) assumes 1% dermal penetration.

D = Total exposure of dermal and inhalation routes in mg/kg/day.

E = memo, Litt to Jacoby (4-19-85) gives Q\* as 4.3x10<sup>-3</sup>.