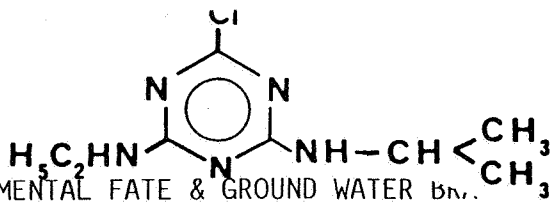


US EPA ARCHIVE DOCUMENT



ENVIRONMENTAL FATE & GROUND WATER B.N.  
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY

Common Name: **ATRAZINE** Date: 03/15/90  
 Chem. Name : 2-CHLORO-4-(ETHYLAMINO)-6-(ISOPROPYLAMINO)-s-TRIAZINE  
 :  
 Shaugh. # : 80803 CAS Number: 1912-24-9  
 Type Pest. : Herbicide  
 Formulation: G;P/T;WP;DF;EC;FC;SC/L  
 Uses : TERRESTRIAL FOOD, TERRESTRIAL NON-FOOD, FORESTRY  
 :  
 :

Empir. Form: C<sub>8</sub>H<sub>14</sub>ClN<sub>5</sub> VP (Torr): 3.0E-7  
 Mol. Weight: 215.68 Log Kow : 2.68  
 Solub.(ppm): 33 PPM @ 20°C Henry's : 2.58E-9

Hydrolysis (161-1) Photolysis (161-2, -3, -4)  
 pH 5:[\*] STABLE Air :[ ]  
 pH 7:[\*] STABLE Soil :[#] 64-88 HRS ARTIFIC. LIGHT  
 pH 9:[\*] STABLE Water:[\*] 1 DAY, pH6.8, 15 C  
 pH :[ ] pH 5-10: 42 - >1000 DAYS :[ ]  
 pH :[ ] :[ ]  
 pH :[ ] :[ ]

MOBILITY STUDIES (163-1)

Soil Partition (Kd)						Rf Factors						
1.[ ]	Sd	Si	Cl	%OM	pH	Kads	Kdes	1.[ ]	SOIL	ATRAZ	G-28279	G-28273
2.[*]	25	33	42	4.8	5.9	2.46	9.12	2.[#]	SAND	1.0	.98	1.0
3.[*]	96	2	2	0.9	6.5	0.20	1.51	3.[#]	SdLm	.57	.16	.72
4.[*]	63	20	17	1.9	7.5	0.79	7.27	4.[#]	SiLm	.67	.18	.39
5.[*]	44	47	9	0.8	6.7	0.73	4.76	5.[#]	SiClLm	.51	?	.43
6.[ ]								6.[ ]				

METABOLISM STUDIES (162-1,2,3,4)

Aerobic Soil (162-1)				Anaerobic Soil (162-2)			
1.[#]	140 DAYS,	CALIFORNIA	LOAM	1.[#]	159 DAYS	IN SANDY	LOAM
2.[*]	21 DAYS	SiLm,	9% OM, pH 5.5	2.[ ]			
3.[#]	PERCENT VS TIME IN TENN. SOIL			3.[ ]			
4.[ ]	DAYS;	25	100 180	4.[ ]			
5.[ ]	CO2	.7	9.3 12.1	5.[ ]			
6.[ ]	EXTRACT.	72.6	42.5 28.8	6.[ ]			
7.[ ]	ATR+METAB.	50.3	9.9 5.4	7.[ ]			
Aerobic Aquatic (162-4)				Anaerobic Aquatic (162-3)			
1.[ ]				1.[*]	608 DAYS	FOR COMBINED	WATER/
2.[ ]				2.[ ]	SEDIMENT	(330 DAYS	IN SEDIMENT
3.[ ]				3.[ ]	AND 578 DAYS	IN WATER	ALONE).
4.[ ]				4.[ ]			

[\*] - Acceptable Study. [#] = Supplemental Study

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**VOLATILITY STUDIES (163-2,3)**

- Laboratory:
- Field:

**DISSIPATION STUDIES (164-1,2,3,5)**

Terrestrial Field (164-1)

- 1.[#] IN THE 0-6" DEPTH, ATRAZINE DECREASED WITH TIME BUT AT
- 2.[ ] GREATER DEPTHS IT GRADUALLY INCREASED.
- 3.[ ]
- 4.[ ]
- 5.[ ]
- 6.[ ]

Aquatic (164-2)

- 1.[ ]
- 2.[ ]
- 3.[ ]
- 4.[ ]
- 5.[ ]
- 6.[ ]

Forestry (164-3)

- 1.[#] Leaf Foliage 13d Leaf Litter 66d
- 2.[ ]

Other (164-5)

- 1.[ ]
- 2.[ ]

**ACCUMULATION STUDIES (165-1,2,3,4,5)**

Confined Rotational Crops (165-1)

- 1.[ ]
- 2.[ ]

Field Rotational Crops (165-2)

- 1.[ ]
- 2.[ ]

Irrigated Crops (165-3)

- 1.[ ]
- 2.[ ]

Fish (165-4)

- 1.[\*] Max BCF 7.7x (edible), 12x (inedible), 15x (whole fish)
- 2.[\*] Depuration 74% (edible), 76%(inedible) 78% (whole fish)

Non-Target Organisms (165-5)

- 1.[ ]
- 2.[ ]

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**GROUND WATER STUDIES (158.75)**

1. [ ] 14 OF 18 STATES TESTED POSITIVE; HIGH POTENTIAL FOR LEACHING
2. [ ] MAX WAS 550 PPB FROM WELL NEAR GREEN BAY. NON-POINT SOURCE
3. [ ] CONTAMINATION OF SOME WELLS.

**DEGRADATION PRODUCTS**

1. ADSORPTION AND DESORPTION VALUES OF PRINCIPAL DEGRADATES:
2. G-28273 G-28279 G-30033
3. SOIL %OM pH Kads Kdes Kads Kdes Kads Kdes
4. CLAY 4.8 5.9 1.56 7.80 2.73 12.36 1.10 8.14
5. SAND 0.9 6.5 0.16 ? 0.16 ? 0.06 ?
6. SANDY Lm 1.9 7.5 0.65 8.06 0.51 15.28 0.36 11.19
7. LOAM 0.8 6.7 0.36 6.87 0.27 6.98 0.21 3.92
- 8.
9. (Sd, Si. AND C1 PERCENTAGES FOR THE ABOVE SOILS ARE LISTED IN
10. MOBILITY STUDIES, 163-1)

**COMMENTS**

IT IS LIKELY THAT ATRAZINE IS MORE PERSISTENT IN GROUND WATER THAN  
IN MOST SOILS UNDER TYPICAL CONDITIONS.

Koc VALUES FOR ATRAZINE IN CLAY = 87

SAND = 39

SANDY LOAM = 70

LOAM =155

References: EFGWB SRR Science Chapter; EPA REVIEWS  
Writer : S.C.Ternes J. HANNAN

1. CHEMICAL:

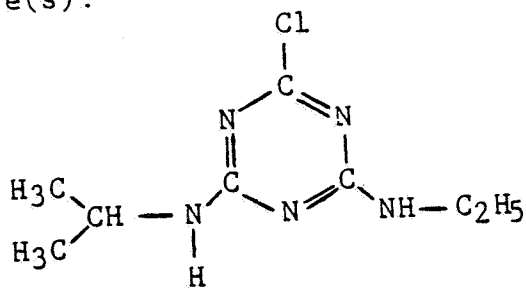
Chemical name: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine

Chemical Abstracts #: 1912-24-9

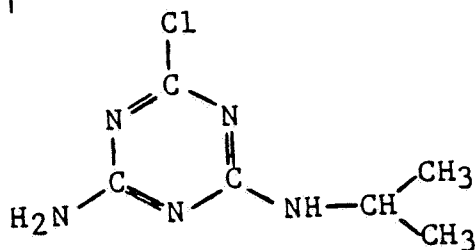
Common name: ATRAZINE

Trade name: AATREX® NINE-O®

Structure(s):

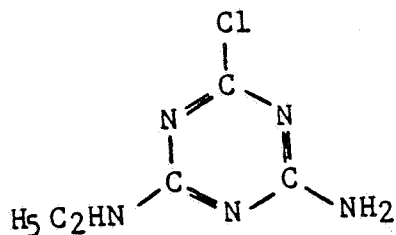


ATRAZINE



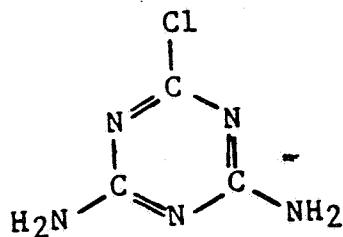
2-amino-4-chloro-6-isopropyl-s-triazine

G-30033



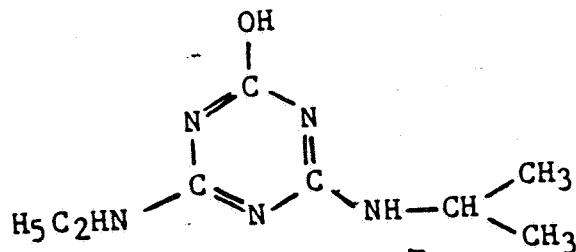
2-amino-4-chloro-6-ethylamino-s-triazine

G-28279



2,4-diamino-6-chloro-triazine

G-28273



2-ethylamino-4-hydroxy-6-isopropylamino-s-triazine

G-34048

DEGRADATES OF ATRAZINE