

## MUTAGENICITY REVIEW SUMMARY

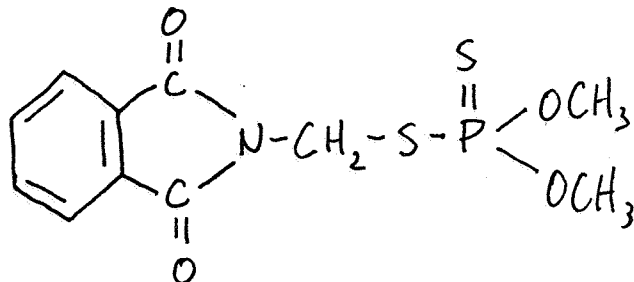
CHEMICAL: Phosmet (Imidan)

Date: 11/16/93

CAS No. : 732-11-6 Caswell No.: 543 P.C. Code: 059201

Structure:

Analogues (w/CAS and Caswell #):



Chemical Name: N-(mercaptomethyl)phthalamide S-(O,O-dimethyl phosphosodithioate)

Acceptable Studies (with MRID and Document Control Numbers):

- 1) Salmonella assay (MRID #00164884; Doc #006339): positive  $\pm$  activation (TA100)
- 2) mouse lymphoma gene mutation assay (MRID #00164885; Doc #006339): positive  $\pm$  activation (lower frequency with activation)
- 3) mouse lymphoma cells/aberrations (MRID #00164886; Doc #006339, 009535): positive w/o activation
- 4) mouse lymphoma cells/SCE (MRID #00164886; Doc #006339, 009535): positive  $\pm$  activation
- 5) human fibroblasts/DNA damage - nucleoid sedimentation (MRID #00164887; Doc #006339): negative
- 6) BALB/3T3 cell transformation assay (MRID #00164888; Doc #006339, 009535): positive
- 7) mouse micronucleus assay (MRID #40199401; Doc #006465): negative

Unacceptable Studies (with MRID and Document Control Numbers):

Other Information (e.g. GeneTox printout, published studies):

Published studies: 1) SAL + (very large increase in TA100)(Mutat Res 116:185-216, 1983); 2) DBA (EUE cells, increased single strand breaks, less break w/act.), DBH (single strand breaks confirmed w/DNA unwinding exp.), V79 (hprt locus, increased mutations, greater w/act.), SHE (positive for transformation SHE cells)(tested mixture of phosmet 2%, xylene 45.3%, other "inerts"; Environ Molec Mutagen 20: 73-78, 1992)

Peer Review Carcinogenicity Classification:

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Phosmet (Imidan) search

Zeiger E.

Carcinogenicity of mutagens: predictive capability of the Salmonella mutagenesis assay for rodent carcinogenicity.

Cancer Research 47: 1287-1296, 1987.

RESOURCE # 372

Zeiger E, Anderson B, Haworth S, Lawlor T, Mortelmans K, Speck W.

Salmonella mutagenicity tests: III. Results from the testing of 255 chemicals. (Suppl 9).

Environmental Mutagenesis 9: 1-110, 1987.

RESOURCE # 429

Moriya M, Ohta T, Watanabe K, Miyazawa T, Kato K; Shirasu Y.

Further mutagenicity studies on pesticides in bacterial reversion assay systems.

Mutation Research 116: 185-216, 1983.

RESOURCE # 475

Lippens R, Claeys M, Wildemaue C, van Larebeke N.

Mutagenicity studies on 10 pesticides, on trichloroethane and on diaminobenzidine.

Mutation Research 113: 277-278, 1983.

RESOURCE # 583

Shirasu Y, Moriya M, Tezuka H, Teramoto S, Ohta T, Inoue T.

Mutagenicity screening studies on pesticides. ..Proc Int Conf 3rd (1981).

Environ Mutagens Carcinog... : , 1982.

RESOURCE # 615

Shirasu Y, Moriya M, Kato K, Furuhashi A, Kada T.

Mutagenicity screening of pesticides in the microbial system.

Mutation Research 40: 19-30, 1976.

RESOURCE # 671

Slamenova D, Dusinska M, Gabelova A, Bohusova T, Ruppova K.

Decemtion (imidan)-induced single-strand breaks to human DNA, mutations at the hprt locus of V79 cells, and morphological transformations of embryo cells.

Environ Molec Mutagen 20: 73-78, 1992.

RESOURCE # 972

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Phosmet (Imidan) search

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CHEMICAL DATA

RESRC CHEMICAL NAME CAS No. ASSAY CODES KEYWORDS

~~372 azinphosmethyl (Gusathion) 86-50-0 SAL, 666~~

~~429 azinphosmethyl (Gusathion) 86-50-0 SAL~~

475 phosmet (dimethyl-S-(phthalimidomethyl).. 732-11-6 SAL, WP2 + TA10D, CTS, neg.

~~475 pirimiphosmethyl (2-diethylamino-6-methyl-4... 29232-93-7 SAL, WP2~~

~~583 bromphosmethyl SAL~~

615 phosmet 732-11-6 SAL

671 imidan (dimethyl S-(phthalimidomethyl)phosphoro.. REC, spot(SAL, WP2)

972 phosmet (decectione, imidan) 732-11-6 DBA, DBH, V79, CTS all +

.phosphorodithioate), PMP, very large ↑ in TA10D (greater response w/ act.)  
organophosphate pesticide, positive in range > 50 µg/plate  
phthalimide

.pyrimidinyl dimethyl  
phosphorothioate),  
organophosphate pesticide,  
pyrimidine

.thiothionate), phthalimide  
organophosphate insecticide

↳ actually tested mixture of pinacet (20%), xylene (45.3%), other "mixts": U79 cells, SHE cells, EUE cells

DBA → EUE cells; increased single strand breaks (SS breaks w/ act.)

DBH → single strand breaks conformed w/ DNA unwinding experiment

U79 → hypotannus, increased mutations, effed larger w/ act. (large S. signal) <sup>exp to</sup>

SHE transformation assay → positive effect