

CASE G50023

NAPHTHALENE ACETIC ACID

PM 100 11/28/79

CHEM G55002

1-naphthaleneacetic acid

BRANCH **EEB** DISC 20 TUPIC 200015009

FORMULATION NO - ACTIVE INGREDIENT

FICHE/MASTER ID G5007254

CONTENT CAT 01

Eliasson, L. (1961) Responses of pea roots to growth substances,
Physiologia Plantarum 14:803-812.

SUBST. CLASS = 3.

OTHER SUBJECT DESCRIPTORS

PRIM: EFF -10-35

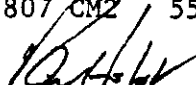
DIRECT RWA TIME = 0.7 (MH) START-DATE 24 OCT 1980 END DATE 24 OCT 1980

REVIEWED BY: Robert W. Holst, Ph.D.

TITLE: Plant Physiologist

ORG: Sect. 1, Ecol. Eff. Br. HED OPP

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SIGNATURE: 

DATE: 24 OCT 1980

APPROVED BY:

TITLE:

ORG:

LOC/TEL:

SIGNATURE:

DATE:



Chemical: 1-Naphthaleneacetic acid

Citation: Eliasson, L. (1961) Responses of pea roots to growth substances. Physiologia Plantarum 14:803-812.

Reviewer: Robert W. Holst, Ph.D., Plant Physiologist
Hazard Evaluation Division/Ecological Effects Branch

Validation Date: 10/24/80

Test Title: Pea-Root Growth

Conclusion: The effect is time and concentration related. Three times 10^{-7} M caused a 50% effect at 24 hrs. while with 1×10^{-6} M (.186 ppm), the effect is immediate.

Validation: This study is scientifically sound.

Materials and Methods: Pea roots or portions of the roots were soaked in various concentrations of NAA for varying lengths of time up to 48 hours. Only pea seedlings were used.

Results: Root growth was inhibited 50% or more with 50 ppm of NAA applied at the hypocotyl however growth recovered within 48 hrs. Lesser concentrations inhibited growth but only 10 (0.5 ppm) to 30% (5 ppm). Where the roots were growing in various concentration ($3 \times 10^{-7}M$ to $3 \times 10^{-6}M$), the number of roots was reduced to 30% and the 50% inhibition of root growth was $3 \times 10^{-7}M$ at 24 hrs., and immediately with $1 \times 10^{-6}M$.