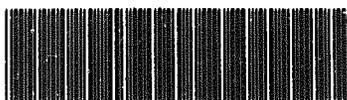




DuPont Central Research
and Development



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INIT 09/25/95

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September 22, 1995

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Dear 8(e) Coordinator:

Contains No CBI

This letter is to inform you, in accordance with the guidelines for TSCA Section 8(e), of the results from a screening study in which 3 rats per group were administered daily intraperitoneal (i.p.) injections of several nitrile compounds for 5 consecutive days and held for an additional seven days. The compounds involved are cis-2-Pentenenitrile (2PN) (CAS# 25899-50-7), ~98.6% pure; "Stripped" 2-Pentenenitrile (S2PN), ~73% cis-2-Pentenenitrile and ~27% related nitrile isomers; and 3-Pentenenitrile (3PN) (CAS# 4635-87-4), ~96% pure. A summary of the dosing regimen and effects is presented in the attached table.

The findings from this study are suggestive of neurotoxic effects. Similar clinical signs were observed in rats following inhalation exposure to 2PN, S2PN, and 3PN, which have been previously reported to the EPA (1,2). Although the findings from the current study were similar to those observed following inhalation exposure, they occurred at higher i.p. doses compared to the equivalent inhalation concentration. In addition, it should be noted that co-administration of phenobarbital with 2PN and 3PN modified the clinical signs that were observed. The results from the current study have been considered with respect to the way we handle these chemicals, and no changes were required.

Sincerely,

Charles F. Reinhardt

Charles F. Reinhardt, M.D.
Director

CFR/LAM:dj

Telephone: (302)366-5285

References:

1. 2-Pentenenitrile and "Stripped" 2-Pentenenitrile (CAS # 13284-42-9): 8EHQ-1190-1121
2. DuPont CAP Program: Submission No. 591

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Dosing Regimen and Effects

<u>Compound</u>	<u>Dose (mg/kg)</u>	<u>Clinical Signs^a</u>
Vehicle	--	none
PB control ^b	60	abnormal righting reflex
2PN ^c	125	salivation
2PN	150	cloudy eyes, salivation
2PN	175	cloudy eyes, salivation
2PN + PB	175 2PN + 60 PB ^d	cloudy eyes, abnormal gait/mobility, hyperactive, salivation, irregular head movement/position, circling, abnormal righting reflex, prostrate, increased arousal, abnormal response to approach/touch/auditory stimulus
S2PN ^e	200	cloudy eyes, salivation, abnormal gait/mobility/coordination, abnormal righting reflex, increased arousal, abnormal response to approach/touch/auditory stimulus
3PN ^f	20	none
3PN	40	salivation
3PN	60	salivation
3PN + PB	60 3PN + 60 PB	salivation, abnormal gait/mobility, increased arousal, increased response to tail pinch, prostrate, no righting reflex

^a Clinical signs that did not meet reporting criteria are not included.

^b PB = Phenobarbital

^c 2PN = Cis-2-Pentenenitrile (CAS# 25899-50-7) (~98.6% pure)

^d 1/3 rats died during the 12-day test period.

^e S2PN = "Stripped" 2-Pentenenitrile (~ 73% cis-2-pentenenitrile and ~ 27% related nitrile isomers)

^f 3PN = 3-Pentenenitrile (CAS# 4635-87-4) (~96% pure)

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