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APPENDIX B

ROBUST SUMMARY FOR PROPANENITRILE, 2,2'-AZOBIS(2-METHYL- (AIBN)

CAS NO. 78-67-1

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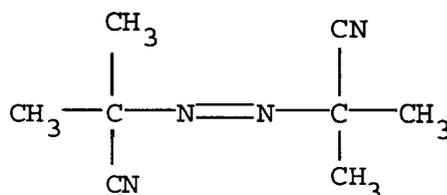
AIBN is exempt from the HPV program because it has already been evaluated through the Organization of Economic Cooperation and Development (OECD) high production volume (HPV) program. A SIDS Initial Assessment Report (SIAR) was prepared for evaluation by the Ninth SIAM convened in France June 29 through July 1, 1999. The studies listed below were selected to represent the best available study design and execution for these HPV toxicity endpoints. Other data of equal or lesser quality are not summarized, but are listed as related references in this document.

1.0 Substance Information

CAS Number: 78-67-1

Chemical Name: Propanenitrile, 2,2'-azobis(2-methyl-

Structural Formula:



Other Names:

Vazo[®] 64
Alpha, alpha'-azobis(isobutyronitrile)
Alpha,alpha'-azodiisobutyronitrile
Alpha,alpha'-azodiisobutyric acid dinitrile
Azobis(isobutyronitrile)
Azodiisobutyronitrile
Azodiisobutyrodinitrile
2,2'-Azobis(2-methylpropionitrile)
2,2'-Azo-bis(isobutyronitrile)
2,2'-Dicyano-2,2'-azopropane
2,2'-Dimethyl-2,2'-azopropionitrile
Aceto AZIB
Aceto AZDH
Aceto AZDN
AIBN
Genitron[®]
Genitron[®] AZDN
Pianofor AN
Porofor N
Porofor-57
Purifier N

Exposure Limits: 1 mg/m³, 8-hour TWA and 0.7 mg/m³, 12-hour TWA:
DuPont Acceptable Exposure Limit (AEL)

2.0 Physical/Chemical Properties

2.1 Melting Point

Value: 100-103°C
Decomposition: No
Sublimation: No
Pressure: No Data
Method: No Data
GLP: No
Reference: MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).
Reliability: Not assignable because limited study information was available.

Additional Reference for Melting Point:

DuPont Co. (2000). Material Safety Data Sheet No. BOO00109 (March 28).

2.2 Boiling Point: Not Applicable.

2.3 Density

Value: Specific gravity = ~ 1.1; bulk density = -25 lbs/ft³
Temperature: No Data
Method: Not Available
GLP: Unknown
Results: No additional data.
Reference: DuPont Co. (2000). Material Safety Data Sheet No. BOO00109 (March 28).
Reliability: Not assignable because limited study information was available.

Additional Reference for Density:

DuPont Co. (n.d.). Vazo[®] Polymerization Initiators: Properties, Uses, Storage, and Handling (also cited in TSCA Fiche [OTS0000937](#)).

2.4 Vapor Pressure

Value: 8.1×10^{-1} Pa
Temperature: 25°C
Decomposition: No Data
Method: OECD Guideline 104

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The purity of the test substance was 99.6%.
GLP: Yes
Reference: MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).
Reliability: High because a scientifically defensible or guideline method was used.
Value: 1.9×10^{-1} Pa
Temperature: 25°C
Decomposition: No Data
Method: Estimated using the modified Grain method.
GLP: Not Applicable
Reference: SRC MPBPWIN v1.40 in EPIWIN v3.05.

Syracuse Research Corporation (MPBPWIN) program estimates the vapor pressure using the modified Grain method. A description of the methodology is detailed in:

Lyman, W. J. (1985). In: Environmental Exposure From Chemicals, Volume I, Chapter 2, Neely, W. B. and G. E. Blau (eds.), CRC Press, Inc., Boca Raton, FL.
Reliability: Estimated value based on accepted model.

Additional References for Vapor Pressure:

DuPont Co. (2000). Material Safety Data Sheet No. BOO00109 (March 28).

2.5 Partition Coefficient (log Kow)

Value: 1.10
Temperature: 25°C
Method: OECD Guideline 107; purity of the test substance was 98%.
GLP: Yes
Reference: MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).
Reliability: High because a scientifically defensible or guideline method was used.

Additional References for Partition Coefficient (log Kow): None Found.

2.6 Water Solubility

Value: 350 mg/L (slightly soluble)
Temperature: 25°C
pH/pKa: No Data
Method: OECD Guideline 105; purity of the test substance was 99.6%.
GLP: Yes
Reference: MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
Reliability: High because a scientifically defensible or guideline method was used.

Value: 851.1 mg/L
Temperature: 25°C
pH/pKa: No Data
Method: Modeled
GLP: Not Applicable
Reference: WsKow v1.4 in EPIWIN v3.05 (SRC Database).

WsKow estimates the water solubility (**Wsol**) of an organic compound using the compound's log **octanol-water** partition coefficient (log Kow). The following journal article describes the estimation methodology:

Meylan, W. M. et al. (1996). Environ. Toxicol. Chem., 15:100-106.

Reliability: Estimated value based on accepted model.

Additional References for Water Solubility:

DuPont Co. (n.d.). Vazo[®] Polymerization Initiators: Properties, Uses, Storage, and Handling (also cited in TSCA Fiche OTS0000937).

DuPont Co. (2000). Material Safety Data Sheet No. BOO00109 (March 28).

2.7 Flash Point: Not Applicable

2.8 Flammability

Results: Flammable limits in air, % by volume: LEL = 0.02 g/L,
UEL = Not determined

Autoignition Temperature = 295°C

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Method: Not Available
GLP: Unknown
Reference: DuPont Co. (2000). Material Safety Data Sheet No. BOO00109 (March 28).
Reliability: Not assignable because limited study information was available.

Additional Reference for Flammability:

DuPont Co. (n.d.). Vazo® Polymerization Initiators: Properties, Uses, Storage, and Handling (also cited in TSCA Fiche OTS0000937).

3.0 Environmental Fate

3.1 Photodegradation:

Concentration: No Data
Temperature: No Data
Direct Photolysis: Not Applicable
Indirect Photolysis: OH Half-life = 15.99 days (12-hour day; concentration of OH radicals = 1.5×10^6 OH/cm³).

Breakdown
Products: No Data
Method: Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research Corporation. The AOP Program, Version 1.90 from Syracuse Research Corporation, estimates the Atmospheric Oxidation Potential. The AOP program estimates the rate constant for the atmospheric, gas-phase reaction between photochemically produced hydroxyl radicals and organic chemicals. The methodology used by the Atmospheric Oxidation Program is based upon the structure-activity relationship (SAR) methods developed by Dr. Roger Atkinson and coworkers (Atkinson et al., 1987; 1995; 1996; 1984). The AOP Program is described in Meylan and Howard, 1993.

GLP: Not Applicable
Reference: Atkinson, R. et al. (1987). Intern. J. Chem. Kinet., 19:799-828.

Atkinson, R. et al. (1995). Atmos. Environ., 29: 1685-1695.

Atkinson, R. et al. (1996). Environ. Sci. Technol., 30:329-334.

Atkinson, R. et al. (1984). Chem. Rev., 84:437-470.

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Meylan, W. M. and P. H. Howard (1993). Chemosphere, 26:2293-2299.

Reliability: Estimated value based on accepted model.

Additional References for Photodegradation: None Found.

3.2 Stability in Water

Concentration: No Data
Half- life: 263 days 4 and 25°C
304 days 7 and 25°C
2 10 days 9 and 25°C
% Hydrolyzed: No Data
Method: OECD Guideline 111; purity of the test substance was 99.6%.
GLP: Yes
Reference: MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).
Reliability: High because a scientifically defensible or guideline method was used.

Additional References for Stability in Water: None Found.

3.3 Transport (Fugacity)

Media:	Air, Water, Soil, Sediment			
Distributions:	Compartment	Release	Release	Release
		100% to air	100% to water	100% to soil
	Air	31.0%	0.5%	0.7%
	Water	40.9%	98.6%	28.6%
	Soil	27.9%	0.5%	70.6%
	Sediment	0.2%	0.4%	0.1%

Adsorption
Coefficient: No Data
Desorption: No Data
Volatility: No Data
Method: Fugacity Level III
GLP: Not Applicable
Reference: MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
Reliability: Estimated value based on accepted model.

Additional References for Transport (Fugacity): None Found.

3.4 Biodegradation

Value: Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN) biodegraded 7% at day 28 (with silica gel). There was no biodegradation at day 20. The biodegradation only slightly increased to about 15% in the prolonged study of approximately 110 days.

Breakdown
Products: Not Applicable
Method: OECD Guideline 301. Secondary activated sludge was used as the **inoculum**. The concentration of the test substance used was 0.7 mg/L. The vehicle was dichloromethane.

GLP: Yes
Reference: Akzo Nobel Chemicals (n.d.). Unpublished Data, "Biodegradability Of Perkadox AIBN In The Closed Bottle Test."

Reliability: High because a scientifically defensible and guideline method was used.

Additional Reference for Biodegradation:

Data from this additional source support the study results summarized above. This study was not chosen for detailed summarization because the data were not substantially additive to the database.

MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).

3.5 Bioconcentration

Value: 1.403 (Log BCF = 0.147)
Method: Calculated by BCFWIN Computer Program, Vers. 2.14, Syracuse Research Corporation (based on reference below).
GLP: Not Applicable
Reference: The estimation methodology used by BCFWIN is described in the following document prepared for the U. S. Environmental Protection Agency (OPPT): "Improved Method for Estimating Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient," SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S. Boethling, EPA-OPPT, Washington, DC; Contract No. 68-D5-0012; prepared by William M. Meylan, Philip H.

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Howard, Dallas Aronson, Heather **Printup**, and Sybil Gouchie; Syracuse Research Corp., Environmental Science Center, 6225 Running Ridge Road, North Syracuse, NY 13212.

Reliability: Estimated value based on accepted model.

Additional References for Bioconcentration: None Found.

4.0 Ecotoxicity

4.1 Acute Toxicity to Fish

Type: **96-Hour LC₅₀**
Species: Brachydanio *rerio* (Zebra fish)
Value: 580 mg/L (based on nominal test concentrations)
Method: OECD Guideline 203. Fish (7/dose group) were exposed to 62.5, 125, 250, 500, or 1000 mg/L under semi-static conditions. The temperature was 22.5-23.5°C. The oxygen concentrations were 8.6-8.9 mg/L. The pH ranged from 7.9-8.2. The water hardness was 12°dH. The fish had an average size of 3.1 cm and an average weight of 0.3 g.
GLP: Yes
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN), purity 99.2%
Results: There were no mortality or signs of toxicity observed at concentrations of 62.5, 125, and 250 mg/L. There was 29% mortality at 500 mg/L and 100% mortality at 1000 mg/L. The NOEC was 250 mg/L.
Reference: Akzo Nobel Chemicals (1996). Unpublished Data, "Acute Toxicity Of Perkadox AIBN To The Freshwater Fish *Brachydanio Rerio*" (3/21/96).
Reliability: Medium because a suboptimal study design was used (nominal test concentrations).

Type: **96-hour LC₅₀**
Species: Fish
Value: **853.9 mg/L**; log Kow = 1.1
Method: Modeled
GLP: Not Applicable
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-
Results: No additional data.
Reference: Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics, Washington, DC, prepared by

Syracuse Research Corp., Environmental Science Center,
Syracuse, NY 13210.

Reliability: Estimated value based on accepted model.

Additional References for Acute Toxicity to Fish:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

DuPont Co. (1997). Unpublished Data, Haskell Laboratory Report No. 1997-01184.

Environment Agency of Japan (1996). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

4.2 Acute Toxicity to Invertebrates

Type: **48-hour EC₅₀**
Species: *Daphnia magna*
Value: 397 mg/L (95% confidence interval, 195-811 mg/L)
Method: *Daphnia magna* were exposed to the test substance in a static, acute **48-hour** screening test. Nominal concentrations tested were 0, 0.5, 1.0, 50, 500, and 5000 mg/L, with replicate test chambers used at each dose level. Dissolved oxygen and pH were reported at test initiation (0 hours) and test completion (48 hours).
GLP: No
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl- (Vazo[®] 64) purity not specified
Results: The test substance exhibited slight toxicity in a 48-hour, unaerated, static acute test using *Daphnia magna*. Based on visual observations, the water control solution was clear and had no color, and the 0.5, 1.0, 50, 500, and 5000 mg/L test solutions all had undissolved test material present throughout the test. Immobilities were 0, 0, 0, 0, 60, and 100% at 0, 0.5, 1.0, 50, 500, and 5000 mg/L, respectively. All water quality parameters were within acceptable limits. Dissolved oxygen at test initiation and completion was 8.4 mg/L. The pH ranged from 7.7-7.8 and 7.9-8.2 at test initiation and completion, respectively.
Reference: DuPont Co. (1997). Unpublished Data, Haskell Laboratory Report No. 1997-01185.
Reliability: Medium because a suboptimal study design was used

(nominal test concentrations).

Type: **48-hour EC₅₀**
Species: Water flea
Value: 859.8 mg/L; log Kow = 1.1
Method: Modeled
GLP: Not Applicable
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-
Results: No additional data.
Reference: Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics, Washington, DC, prepared by Syracuse Research Corp., Environmental Science Center, Syracuse, NY 13210.
Reliability: Estimated value based on accepted model.

Additional References for Acute Toxicity to Invertebrates:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

Environment Agency of Japan (1995). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), htm, accessed January 28, 2002).

Service Analyse Environment (France). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).

4.3 Acute Toxicity to Aquatic Plants

Type: **72-hour EC₅₀ Biomass**
Species: *Selenastrum capricornutum* ATCC 22662
Value: > 9.4 mg/L
Method: OECD Guideline 201 (1984) was performed. The EC₅₀ value for growth rate (% inhibition) was calculated based on 5 measured concentrations (0.46, 0.71, 2.1, 4.2, and 9.4 mg/L). DMF of 100 mg/L was used as a solubilizer.
GLP: Yes
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.3%
Results: The NOEC was 4.2 mg/L.
Reference: Environment Agency of Japan (1996). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),

<http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

Reliability: High because a scientifically defensible or guideline method was used.

Type: 96-hour EC₅₀
Species: Green algae
Value: 510.4 mg/L; log Kow = 1.1
Method: Modeled
GLP: Not Applicable
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-
Results: No additional data.
Reference: Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics, Washington, DC, prepared by Syracuse Research Corp., Environmental Science Center, Syracuse, NY 13210.
Reliability: Estimated value based on accepted model.

Additional References for Acute Toxicity to Aquatic Plants:

Data from this additional source support the study results summarized above. This study was not chosen for detailed summarization because the data were **not** substantially additive to the database.

Service Analyse Environment (France). (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).

5.0 Mammalian Toxicity

5.1 Acute Toxicity

Type: Oral LD₅₀
Species/Strain: Rats/Sprague Dawley
Value: 360 mg/kg (95% confidence limits, 340-380 mg/kg)
Method: Male and female Sprague Dawley rats (5/dose level) were given single oral doses of a 10.0% solutionsuspension in corn oil at doses of 251, 3 16,398, and 501 mg/kg. Clinical signs of toxicity were recorded. Survivors were killed 14 days later and gross autopsy was performed.
GLP: No
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
Results: Mortality was 0/5, 1/5, 4/5, and 5/5 at 251, 316,398, and 501 mg/kg. Mortality occurred in 1 to 5 days, with most

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deaths within 2 days. Clinical signs of toxicity included reduced appetite and activity (2-3 days in survivors), increasing weakness, tremors, collapse, and death. Gross autopsy of animals that died revealed hemorrhagic areas of the lungs and liver, and acute gastrointestinal inflammation. The viscera appeared normal in survivors.

Reference: Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA Fiche OTS054544_1).

Reliability: Medium because a suboptimal study design was used.

Additional References for Acute Oral Toxicity:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 27-62 (also cited in TSCA Fiche OTS05465_16 and OTS0000937).

DuPont Co. (1947). Unpublished Data, Haskell Laboratory Report No. 25-47.

Budavari, S. et al. (eds.) (1989). The Merck Index. An Encyclopedia of Chemicals, Drugs, and Biologicals, p. 146, Merck & Co., Inc., Rahway, NJ.

Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.

Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. -- Issled. Inst. Gig. Tr. Profzabol., pp. 247-251.

Type: **Inhalation LC₅₀**
Species/Strain: Male and female-rats/ Crl:CD®
Exposure Time: 1 hour
Value: > **7.78 mg/L**
Method: The method was in accordance with the International Maritime Dangerous Code (IMDG code, pg. **6003-1,2**). Male and female Crl:CD® rats (1 O/exposure level) were exposed nose only to the test substance at concentrations of 1.57, 3.40, and 7.78 mg/L. All rats were weighed and observed daily for 2 weeks post-exposure, except for the Saturday and Sunday of the 2nd week post-exposure. At approximately 10- minute intervals, calibrated volumes of test atmospheres were drawn through preweighed glass fiber filters, and atmospheric concentrations were

determined. Percent respirability (=10 pm) was determined during each exposure. Percent respirability was 7.96, 10.0, and 6.65 at 1.57, 3.40, and 7.78 mg/L, respectively.

GLP: Yes

Test Substance: Propanenitrile, 2,2'-azobis(2-methyl- purity >98%

Results: One male rat died 1 day after exposure to 1.57 mg/L. No other deaths occurred throughout the study. Most rats exhibited moderate to severe weight losses 1 or 2 days after exposure, followed by a return to a normal weight gain rate. Approximately ½ of the rats exhibited wet or stained perineal areas for 1 to 2 days after exposure. Most females exhibited sporadic weight loss during the 2-week observation period. Seven of 10 female rats exposed to 7.78 mg/L had hair loss, mainly around the head, face, and forelegs. No male rats had **hairloss** at this concentration. Two males and 1 female had back or foreleg hair loss **after** exposure to 3.40 mg/L; no rats had hair loss after exposure to 1.57 mg/L. During exposures; rats' faces were covered with dust, which was removed from the fur after the exposure. A dried red discharge around the facial area was observed in some rats a day after **exposure**, but was not considered test substance-related.

Reference: DuPont Co. (1984). Unpublished Data, Haskell Laboratory Report No. 196-84.

Reliability: Medium because a suboptimal study design was used. Only a small percentage of particles in the exposure atmospheres were of respirable size.

Additional References for Acute Inhalation Toxicity:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62 (also cited in TSCA Fiche OTS0000937).

DuPont Co. (198 1). Unpublished Data, Haskell Laboratory Report No. 40-8 1 (also cited in TSCA Fiche OTS0000937).

Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Type: Dermal ALD
Species/Strain: Rabbits/New Zealand White

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Exposure Time: 24 hours
Value: 50 1 0-7940 mg/kg
Method: The test substance was applied as a 40.0% solution suspension in corn oil to the skin of rabbits (1 male or 1 female) for a 24-hour exposure. Survivors were killed 14 days later.
GLP: No
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
Results: The animal dosed with 5010 mg/kg survived, while the rabbit dosed with 7940 mg/kg died within 9 days. Clinical signs observed included reduced appetite and activity (4 days in the survivor), increasing weakness, collapse, and death. Gross autopsy of the rabbit that died revealed hemorrhagic areas of the lungs, liver hyperemia, enlarged gall bladder, discolored kidneys, and gastrointestinal inflammation. The viscera of survivors appeared normal.
Reference: Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA Fiche OTS0545441).
Reliability: Medium because a suboptimal study design was used.

Additional References for Acute Dermal Toxicity:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.

Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. – Issled. Inst. Gig. Tr. Profzabol., pp. 247-25 1.

Type: Dermal Irritation
Species/Strain: Rabbits/New Zealand White
Method: OECD Guideline No. 404 and EC Guideline 92/69/E.E.C., B₄.
GLP: Yes
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
Results: The test material was not irritating to rabbit skin.
Reference: ELF Atochem (1996). Laboratory study number 14350 TSG (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
accessed
January 28, 2002).

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Reliability: High because a scientifically defensible or guideline method was used.

Additional References for Dermal Irritation:

Data from these additional sources supports the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.

Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA Fiche OTS054544 1).

Data from these additional sources were not summarized because it was not the species of choice.

DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62 (also cited in TSCA Fiche OTS0000937).

~~Eastman-Kodak~~ Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. – Issled. Inst. Gig. Tr. Profzabol., pp. 247-25 1.

Type: **Dermal Sensitization (Maximization Test)**
Species/Strain: Guinea pigs/Duncan Hartley
Method: OECD Guideline No. 406 and EC Guideline 92/69/E.E.C., B₆.
GLP: Yes
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
Results: The test substance was not sensitizing to guinea pigs.
Reference: ELF Atochem (1996). Laboratory study number 14352 TSG (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
accessed
January 28, 2002).
Reliability: High because a scientifically defensible or guideline method was used.

Type: **Human Patch Test**
Species/Strain: Human
Method: Patch testing was performed on 173 humans as described in

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Kanerva et al., 1988; Estlander, 1990; and Jolanki, 1991, with 2 days occlusion and 3 readings (usually on Days 2, 3, and 4-6). Allergic reactions were scored according to ICDRG recommendations, +, ++, and +++ reactions being considered allergic. Irritant reactions were also recorded. Reactions scored as doubtful (?+) or irritant (IR) were classified as irritant.

GLP: Unknown
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
Results: At a dose of 1.0% (w/w), the test substance produced no allergic reactions. It produced an irritant reaction in 1 of 173 humans (6%).
Reference: Kanerva, L. et al. (1997). Contact Dermatitis, 37:301-302.
Kanerva, L. et al. (1988). Int. Arch. Occup. Environ. Health 60:89-94.
Estlander, T. (1990). Acta Dermato-venereologica, Suppl. 155:1-84.
Jolanki, R. (1991). Acta Dermato-venereologica, Suppl. 155:1-80.
Reliability: Not assignable because limited study information was available.

Additional References for Dermal Sensitization:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62 (also cited in TSCA Fiche OTS0000937).

Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Kanerva, L. et al. (1999). Acta Dermato-Venereologica, 79(4):296-300 (BIOSIS/99/24592).

Type: Eye Irritation
Species/Strain: Rabbits/New Zealand White
Method: OECD Guideline No. 405 and EC Guideline 92/69/E.E.C., B₅.
GLP: Yes
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
Results: The test material was not irritating to the rabbit eye.
Reference: ELF Atochem (1996). Laboratory study number 1435 1 TSG (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).
Reliability: High because a scientifically defensible or guideline method was used.

Additional References for Eye Irritation:

Data from this additional source was not summarized because the study design was not adequate.

DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62 (also cited in TSCA Fiche OTS0000937).

Data from these additional sources were not summarized because insufficient study information was available.

Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA Fiche OTS0545441).

5.2 Repeated Dose Toxicity

Type: Combined Repeat Dose and Reproductive Toxicity Screening Test
Species/Strain: Rats/Crj :CD(SD)
Sex/Number: Male and female/Number not specified
Exposure Period: Males: 42 days
Females: 14 days before mating to day 3 lactation
Frequency of Treatment: Daily by gavage
Exposure Levels: 0, 2, 10, and 50 mg/kg/day
Method: OECD Combined Repeat Dose and Reproductive/Developmental Toxicity Screening Tests

	Guideline 422.
GLP:	Yes
Test Substance:	Propionitrile, 2,2'-azobis(2-methyl-, purity, 99.9%
Results:	<p><i>Males:</i> Temporary salivation was induced at 50 mg/kg/day. Decrease in body weight gain and food consumption was observed at 50 mg/kg/day. In the kidneys, absolute and relative weight was increased in all treatment groups, and in 10 mg/kg/day groups, respectively. In addition, increases in eosinophilic bodies and basophilic changes of the renal tubular epithelial cells were observed in all treatment groups and granular casts in the lower nephrons were observed at 10 mg/kg/day. As these pathological changes were observed only in males, accumulation of $\alpha_2\mu$-macroglobulin was suspected as a cause of male specific renal toxicity. Liver weights were significantly increased by 14 and 66% for absolute weight (14 and 74% for relative weight) in the 10 and 50 mg/kg/day groups, respectively. Centrilobular hypertrophy of hepatocytes was observed in the 10 and 50 mg/kg/day groups (\pm: 4 in 13, +: 9 in 13 for 10 mg/kg, ++: 13 in 13 for 50 mg/kg, compared to no changes in the 0 and 2 mg/kg groups). In blood analysis, there were several changes at 50 mg/kg, such as an elevation of platelet and white blood cell counts, increases in total protein, albumin, total cholesterol, Ca, and inorganic phosphorus, and decreases in the A/G ratio and Cl concentration.</p> <p><i>Females:</i> One animal died on postpartum day 3 at 50 mg/kg/day. Decrease in body weight gain and food consumption was observed at \geq 10 mg/kg/day. In the kidneys, absolute and relative weights were increased at 50 mg/kg/day. Liver weights were significantly increased by 43% for absolute weight (51% for relative weight) only at 50 mg/kg/day. However, centrilobular hypertrophy of hepatocytes was observed in the 10 and 50 mg/kg/day groups (\pm: 6 in 13, +: 1 in 13 at 10 mg/kg; \pm: 1 in 13, +: 11 in 13, ++: 1 in 13 at 50 mg/kg/day, compared to no changes at 0 and 2 mg/kg/day).</p> <p>The NOAEL for males and females was 2 mg/kg/day, and the LOAEL for males and females was 10 mg/kg/day. MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), http://www1.oecd.org/ehs/sids/stable/index.htm, accessed January 28, 2002).</p>
Reference:	

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Reliability: High because a scientifically defensible or guideline method was used.

Type: **90-Day Subacute Oral Toxicity**

Species/Strain: Dogs/Purebred beagle

Sex/Number: Male and female/4 per dose

Exposure Period: 90 days

Frequency of

Treatment: 7 days/week

Exposure Levels: 0, 50, 150, 300, 1000 ppm

Method: The test substance was incorporated into a stock diet and fed to dogs 7 days/week. Initially, the body weight of each dog was determined and recorded. Thereafter, weighings were conducted weekly for the duration of the test. Food consumption was recorded. Dogs were examined daily for clinical signs or symptoms indicative of systemic toxicity. Five hematologic, 7 blood chemistry, and 7 urinalysis parameters were measured just prior to the inception of the study, after 42 days, and/or after 85 days for the 0, 50, 150, and 300 ppm groups. The parameters were measured in dogs at 1000 ppm just prior to the inception of the study, and on all surviving dogs after 28 days. At the conclusion of the study, animals were sacrificed and given a complete gross necropsy. Nine organ weights were collected, and representative specimens of approximately 35 organs/tissues were saved for histopathologic examination.

GLP: No

Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified

Results: After the death of 1 animal, the surviving 1000 ppm group animals were sacrificed *in extremis* on Day 28 of the investigation. These animals exhibited body weight losses or no body weight gain, and a reduction in the amount of food consumed during the 4 weeks. The animals were asthenic after 3 weeks on test.

The results of the blood chemistry studies conducted on samples collected from the 1000 ppm animals just prior to sacrifice revealed significant increases in serum alkaline phosphatase, serum glutamic-pyruvic transaminase, and serum glutamic-oxalacetic transaminase activities. The results of the hematologic studies and urinalyses conducted on samples obtained from the 1000 ppm animals revealed no unusual findings. The organ weight and ratio data revealed significant increases in liver and kidney to body weight ratios. Histopathologic examination of a series of tissues from the animals fed 1000 ppm revealed morphologic

changes in the liver sections.

No deaths occurred in the 0, 50, 150, or 300 ppm groups. No test substance related findings in body weight/gain, food consumption, or clinical signs were observed at 0, 50, 150, or 300 ppm.

The 300 ppm group animals exhibited an increase in serum alkaline phosphatase activity. The females fed 300 ppm exhibited a slight increase in blood thiocyanate. No test substance-related findings were observed in hematologic or urinalysis parameters at 300 ppm, nor were there any test substance-related findings in hematologic, blood chemistry, or urinalysis parameters at 50 or 150 ppm.

Marginal increases in liver to body weight ratios were observed at 300 ppm, and in 1 male at 150 ppm. No other organ weight effects were observed. Histopathologic examination revealed test substance-related morphologic changes in the liver of some animals at 150 and 300 ppm. The number of animals with this **finding** was greater at 300 ppm, but the finding was regarded to be an adaptive response of the liver. No histopathologic findings were observed at 50 ppm.

Reference: Monsanto Co. (1974). Industrial Bio-Test Laboratories, Inc. Report, BTL No. 73-54, IBT No. 65 1-04494 (TSCA Fiche OTSO545629).

Reliability: High because a scientifically defensible or guideline method was used.

Type: Subacute Inhalation Toxicity

Species/Strain: Rats/ CrI:CD®

Sex/Number: Males/1 0 per concentration level

Exposure Period: 2 weeks

Frequency of

Treatment: 6 hours/day, 5 days/week

Exposure Levels: 0, 10.0, 80.0 mg/m³

Method: Groups of rats were exposed head-only. Five rats/group were randomly selected for sacrifice after the 10th exposure, while the remaining 5 rats/group were sacrificed after a 14-day recovery-observation period. Rats were weighed and observed daily (except weekends) throughout the exposure and recovery period.

Dust atmospheres of the test substance were generated and atmospheric concentration of test substance was determined

from weight gain of the filters.

An overnight (16 hour) urine specimen was collected from 10 rats in groups exposed to 0 and 10.0 mg/m^3 and 9 rats exposed to 80.0 mg/m^3 after the 9th exposure. Blood was taken from these rats after the 10th exposure, then 5 rats from the groups exposed to 0 and 10.0 mg/m^3 and 4 rats exposed to 80.0 mg/m^3 were sacrificed for pathological examination. Fourteen days later (recovery), blood and urine samples were collected from the rats remaining in each group. Approximately 12 hematologic parameters were measured or calculated.

After the 10th exposure, 5 rats from each group were sacrificed for gross and histopathological examination. Remaining rats were sacrificed on the 14th day of recovery for identical **follow-up** examination. Seven organs were weighed and 22 tissues/organs were saved for histologic evaluation.

GLP: No
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl- purity 99%
Results: The mean TWA concentration was 9.80 and 79.5 mg/m^3 for the 10.0 and 80.0 mg/m^3 design concentrations. Mass median diameter ranged from 8.0- 11.5 μ at 80.0 mg/m^3 .

One rat was sacrificed *in extremis*, following the 4th exposure to 80 mg/m^3 . This rat exhibited lung noise, poor righting reflex, stained fur, labored breathing, and sluggishness prior to sacrifice. Pathological examination could not explain the cause of death, however, it was not attributed solely to test substance administration.

When compared with controls, rats exposed to 10 mg/m^3 showed a normal rate of weight gain during both the exposure and recovery periods. Mean body weight gain of rats exposed to 80.0 mg/m^3 was significantly reduced on days 2-4 of the exposure period. For the remainder of the test period, these rats exhibited a normal rate of weight gain. No test substance-related clinical signs were noted.

All exposed rats tended to have higher serum total proteins than the unexposed controls after 10 exposures. Urine osmolality was lower in rats exposed to 80.0 mg/m^3 . Following the 14-day recovery period, no effect was observed in rats at 10.0 mg/m^3 , but rats at 80.0 mg/m^3

continued to have higher serum total proteins.

No test substance-related pathological lesions occurred in rats exposed to 10.0 mg/m³. The 80.0 mg/m³ rats sacrificed after the 10th exposure exhibited a compound-related liver effect, increased cytoplasmic basophilia of hepatocytes. However, this liver effect was not detected in these rats following a 14-day recovery period. The mean relative liver-to-body weight ratios of exposed rats were significantly higher than the control group after exposure 10. This effect was no longer evident after a 14-day recovery period.

Reference: DuPont Co. (198 1). Unpublished Data, Haskell Laboratory Report No. 40-81 (also cited in TSCA Fiche OTS0000937).
Reliability: High because a scientifically defensible or guideline method was used.

Additional References for Repeated Dose Toxicity:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

DuPont Co. (1947). Unpublished Data, Haskell Laboratory Report No. 25-47.

Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Motoc, F. et al. (1971). Arch. Mal. Prof. Med. Trav. Secur. Soc., 32(10-11):653-658 (CA76:122561y).

Preussmann, R. et al. (1969). Ann. N.Y. Acad. Sci., 163(2):697-716 (CA73: 12854b).

Boylard, E. and S. Sargent (1951). Br. J. Cancer, 5:433-439.

5.3 Developmental Toxicity

Species/Strain: Rats/Cjr:CD(SD)
Sex/Number: Male and female/Number not specified
Route of Administration: Gavage
Exposure Period: Males: From 14 days before mating to 14 days after mating
Females: From 14 days before mating to day 3 of lactation
Frequency of Treatment: Daily
Exposure Levels: mg/kg

Method: OECD Combined Repeat Dose and Reproductive/Developmental Toxicity Screening Test Guideline 422

GLP: Yes

Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%

Results: There were no adverse effects of the test substance on copulation and fertility, duration of pregnancy, gestation index, or parturition of all treated groups. Three of 12 dams at 50 mg/kg showed difficulty of nursing, and 2 of them let all their offspring die within the first 4 days **after** birth. The test substance had no adverse effects on viability, sex ratio, or body weight gain of pups. However, viability of newborns at birth and body weight of nurslings on postnatal day 4 was lower than the control level at 50 mg/kg/day. These changes were considered to be caused by maternal toxicity. There were no morphological abnormalities in pups of any treatment group.

Reference: The NOAEL for the parental generation was 10 mg/kg/day. The NOAEL for the F₁ offspring was 50 mg/kg/day. MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).

Reliability: High because a scientifically defensible or guideline method was used.

Additional References for Developmental Toxicity: None Found.

5.4 Reproductive Toxicity

Species/Strain: Rats/Cjr:CD(SD)

Sex/Number: Male and female/Number not specified

Route of Administration: Gavage

Exposure Period: Males: From 14 days **before mating** to 14 days **after** mating
Females: From 14 days before mating to day 3 of lactation

Frequency of Treatment: Daily

Exposure Levels: 0, 2, 10, 50 mg/kg

Method: OECD Combined Repeat Dose and Reproductive/Developmental Toxicity Screening Test Guideline 422

GLP: Yes

Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%

Results: There were no adverse effects of the test substance on copulation and fertility, duration of pregnancy, gestation index, or parturition of all treated groups. Three of 12 dams at 50 mg/kg showed difficulty of nursing, and 2 of them let all their offspring die within the first 4 days after birth. The test substance had no adverse effects on viability, sex ratio, or body weight gain of pups. However, viability of newborns at birth and body weight of mu-slings on postnatal day 4 was lower than the control level at 50 mg/kg/day. These changes were considered to be caused by maternal toxicity. There were no morphological abnormalities in pups of any treatment group.

Reference: The NOAEL for the parental generation was 10 mg/kg/day. The NOAEL for the F₁ offspring was 50 mg/kg/day. MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).

Reliability: High because a scientifically defensible or guideline method was used.

Additional References for Reproductive Toxicity: None Found.

5.5 Genetic Toxicity

Type: ***In vitro* Bacterial Reverse Mutation Assay**

Tester Strains: *Salmonella typhimurium* strains TA98, TA100, TA1535, TA1537, TA97 (without S9 mix)
Escherichia coli WP2 *uvrA*

Exogenous Metabolic Activation: With and without phenobarbital and 5,6-benzoflavone induced rat liver S9

Exposure Concentrations: With metabolic activation: 0, 3, 13, 625, 1250, 2500, 5000 µg/plate

Without metabolic activation: 0, 313, 625, 1250, 2500, 5000 µg/plate

Method: Guidelines for Screening Mutagenicity Testing of Chemicals (Japan) and OECD Guideline No. 471 and 472. The positive control for tests with metabolic activation was 2-aminoanthracene (5 strains). Positive controls for tests without metabolic activation included sodium azide

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(TA1537 and TA97), and
2-(2-furyl)-3-(5-nitro-2-furyl) acrylamide (TA100, TA98,
and WP2).

GLP: Yes
Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
Results: Negative
Remarks: Toxicity was not observed when tested with or without
exogenous metabolic activation. Precipitation was observed
at concentrations of 1250 and 2500 $\mu\text{g}/\text{plate}$ when tested
with and without metabolic activation, respectively. The test
substance was negative for induction of mutations when
tested with and without metabolic activation.

Reference: MHW, Japan (1997). Ministry of Health and Welfare:
Japan, Toxicity Testing Reports of Environmental
Chemicals, 5:65 (cited in OECD SIDS Dossier for
2,2'-Azobis(2-methylpropionitrile),
accessed
J a n u a r y 28, 2002).

Reliability: High because a scientifically defensible or guideline method
was used.

Additional References for *In vitro* Bacterial Reverse Mutation Assay:

Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

DuPont Co. (1976). Unpublished Data, Haskell Laboratory Report No. 89-76 (also cited in TSCA Fiche OTS0000937).

Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche OTS0001156).

Takenaka, S. et al. (1993). J. Toxicol. Sci., 18(4):4 18 (Abstract P-223).

Eder, E. et al. (1989). Naunyn-Schmiedeberg's Arch. Pharmacol., 339(Suppl.):R26 (Abstract 102) and Eder, E. et al. (1989). Toxicol. Lett., 48:225-234).

Type: *In vitro* Chromosomal Aberration Test
Cell Type: Chinese hamster lung (CHL/IU) cells
Exogenous Metabolic Activation: With and without phenobarbital and 5,6-benzoflavone rat liver induced S9
Exposure Concentrations: 0, 0.40, 0.80, 1.6 mg/mL

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Method: Guide for Screening Mutagenicity Testing of Chemicals (Japan) and OECD Guideline No. 473. The short-term treatment was 6 hours, and the continuous treatment was 24 and 48 hours. The positive controls were cyclophosphamide and mitomycin for the tests with and without activation, respectively.

GLP: Yes

Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%

Results: Negative

Remarks : Cytotoxicity was not observed. The test substance was negative for clastogenicity and polyploidy when tested both in the presence and absence of metabolic S9 activation.

Reference: MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile), accessed January 28, 2002).

Reliability: High because a scientifically defensible or guideline method was used.

Additional References for *In vitro* Clastogenicity: None Found.

Type: ***In vivo* Mouse Micronucleus Assay**

Species/Strain: Mice/ddY

Sex/Number: Male/Number not specified

Route of Administration: Oral

Concentrations: No Data

Method: A micronucleus test was performed using groups of male mice orally administered 2 doses of the test substance.

GLP: Unknown

Test Substance: Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified

Results: Negative

Remarks: At both 24 and 48 hours after treatment, the test substance did not produce a significant increase in the frequency of micronucleated polychromatic erythrocytes in the bone marrow of the treated mice.

Reference: Takenaka, S. et al. (1993). J. Toxicol. Sci., 18(4):418 (Abstract P-223).

Reliability: Not assignable because limited study information was available.

Additional References for *In vivo* Genetic Toxicity: None Found.

201-16255C

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I U C L I D

Data Set

Existing Chemical : ID: 13472-08-7
CAS No. : 13472-08-7
EINECS Name : 2,2'-azobis[2-methylbutyronitrile]
EC No. : 238-740-B
Molecular Formula : C10H16N4

Producer related part

Company : E. I. du Pont de Nemours and Company
Creation date : 13.12.2005

Substance related part

Company : E. I. du Pont de Nemours and Company
Creation date : 13.12.2005

Status
Memo

Printing date : 15.05.2006
Revision date
Date of last update : 15.02.2006

Number of pages : 30

Chapter (profile) : Chapter: 1, 2, 3, 4, 5, 6, 7, 8, 10
Reliability (profile) : Reliability: without reliability, 1, 2, 3, 4
Flags (profile) : Flags: without flag, confidential, non confidential, WGK (DE), TA-Luft (DE),
Material Safety **Dataset**, Risk Assessment, Directive 67/548/EEC, SIDS

1. General Information

Id 13472-08-7
Date 15.052006

1.0.1 APPLICANT AND COMPANY INFORMATION

1.0.2 LOCATION OF PRODUCTION SITE, IMPORTER OR FORMULATOR

1.0.3 IDENTITY OF RECIPIENTS

1.0.4 DETAILS ON CATEGORY/TEMPLATE

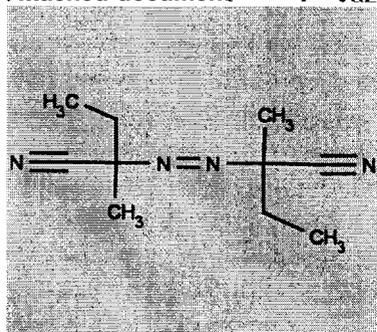
1.1.0 SUBSTANCE IDENTIFICATION

IUPAC Name : 2,2'-Azobis[2-methylbutanenitrile]
Smiles Code
Molecular formula :
Molecular weight : 192.26
Petrol class

16.12.2005 .

1.1.1 GENERAL SUBSTANCE INFORMATION

Attached document : Vazo 67 structure.bmp



10.01.2006

1.1.2 SPECTRA

1.2 SYNONYMS AND TRADENAMES

2,2'-Asodi(2-methylbutyronitrile)

13.12.2005

2,2'-Azobis(2-cyanopentane)

13.12.2005

1. General Information

Id 13472-08-7
Date 15.052006

2,2'-Azobis(alpha-methylbutyronitrile)

16.12.2005

2,2'-Azobis-2-methylbutyronitrile

13. 12. 2005

2,2'-Azobismethylethylacetonitrile

13. 12. 2005

2,2'-Dimethyl-2,2'-azodibutyronitrile

13. 12. 2005

2,2-Azobisisovaleronitrile

13. 12. 2005

Azocatalyst M

13. 12. 2005

Azostarter V 59

13. 12. 2005

Perkadox AMBN

13.12.2005

v 59

13. 12. 2005

Vazo(R) 67

16. 12. 2005

Vazo(R) 64-A

16. 12. 2005

Wako V 59

13. 12. 2005

1.3 IMPURITIES

1.4 ADDITIVES

1.5 TOTAL QUANTITY

1. General Information

Id 13472-08-7
Date 15.052006

1.6.1 LABELLING

1.6.2 CLASSIFICATION

1.6.3 PACKAGING

1.7 USE PATTERN

1.7.1 DETAILED USE PATTERN

1.7.2 METHODS OF MANUFACTURE

1.8 REGULATORY MEASURES

1.8.1 OCCUPATIONAL EXPOSURE LIMIT VALUES

Type of limit : other: DuPont Acceptable Exposure Limit (AEL) 8-hour TWA
Limit value : 1 mg/m³

Remark : The 12-hour TWA value is 0.7 mg/m³
13.12.2005

(18)

1.8.2 ACCEPTABLE RESIDUES LEVELS

1.8.3 WATER POLLUTION

1.8.4 MAJOR ACCIDENT HAZARDS

1.8.5 AIR POLLUTION

1.8.6 LISTINGS E.G. CHEMICAL INVENTORIES

1.9.1 DEGRADATION/TRANSFORMATION PRODUCTS

1.9.2 COMPONENTS

1. General Information

Id 13472-08-7

Date 15.05.2006

1.10 SOURCE OF EXPOSURE

Remark : AMBN and its analogous compound, **AIBN** are solid free-radical initiators used industrially in polymerization reactions. Although the products have slightly different properties, they may, in most cases, be used interchangeably. There are no direct consumer uses of these products. Both compounds decompose when exposed to heat, releasing nitrogen gas and carbon-centered radicals. End-use applications include acrylics, resins, industrial polymers, and foams. The materials react rapidly and completely; thus, neither is recognizable in end-use products, and consumer exposure is unlikely. Transport of dry product in **temperature-controlled** containers is required for shipment of any amount greater than 100 grams. Exposure to either material would not occur during shipping, unless container integrity is compromised.

During manufacturing uses, the most likely exposure is to skin, with some potential of airborne exposure during material transfer operations. The major manufacturers of AMBN practice Responsible **Care**. Specific manufacturing procedures and industrial hygiene programs in place at manufacturing sites limit the potential for employee exposure through use of engineering controls, environmental controls, and personal protective equipment. DuPont has set an Acceptable Exposure Limit (AEL) of 1 **mg/mg3** TWA for both AMBN and AIBN. DuPont also has a program to assess the ability of potential customers to safely handle the materials prior to commencing a commercial relationship. This assessment includes reviews and audits of PPE (personal protective equipment), safety equipment and procedures, structural integrity, and safety practices.

15.02.2006

1.11 ADDITIONAL REMARKS

Remark : The studies listed below were selected to represent the best available study design and execution for these HPV toxicity endpoints. Other data of equal or lesser quality are not summarized, but are listed as related references in this document.

10.01.2006

1.12 LAST LITERATURE SEARCH

1.13 REVIEWS

2. Physico-Chemical Data

Id 13472-08-7

Date 15.052006

2.1 MELTING POINT

Value : 49.4 °C
Decomposition : yes, at 50 °C
Sublimation :
Method : other
Year : 2004
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Method : The procedures used in this test were based on the recommendations of the following guideline: U.S. EPA Product Properties Test Guidelines OPPTS 830.7200.

A preliminary test was performed to determine the approximate melting point of the test substance. A Mettler FP900 Thermosystem was used, and the preliminary test was performed in triplicate. Due to the potentially dangerous reaction of the test substance when subjected to heat, friction, or impact, and the fact that the consistency of the test substance was already that of a powder, the test substance was not ground using a mortar and pestle. A portion of the dried test substance was loaded into the bottom of 3 melting point tubes to a depth of 4-6 mm. The 3 melting point tubes were heated from 40°C (start temperature) to 50°C (end temperature) at a rate of +0.2°C per minute. (The MSDS for this test substance states that the compound should not be heated above 50°C due to violent decomposition with self ignition.)

The definitive test was then performed. Triplicate melting point tubes containing 4-6 mm of test substance were heated from 47.5°C (start temperature) at a rate of +0.2°C per minute until the end temperature of 50°C was reached.

Remark : Reliability: High because a scientifically defensible or guideline method was used.
The MSDS for this test substance states that the compound should not be heated above 50°C due to violent decomposition with self ignition.
16.12.2005 (4)

Remark : Additional Reference for Melting Point:
13.12.2005 (18)

2.2 BOILING POINT

Remark : Not Applicable
03.01.2006

2.3 DENSITY

Type : relative density
Value : 1.1 at °C
Method : other: Method not available
Year :
GLP : no data
Test substance : as prescribed by 1.1 - 1.4

2. Physico-Chemical Data

Id 13472-08-7

Date 15.052006

Remark : bulk density = 25 lbs/ft³
16.12.2005 Reliability: Not assignable because limited study information was available. (18)

Remark : Additional Reference for Density:
13.12.2005 (20)

2.3.1 GRANULOMETRY

2.4 VAPOUR PRESSURE

Value : .00354 hPa at 25 °C
Decomposition : no
Method : other (measured): U.S. EPA Product Properties Test Guidelines OPPTS 830.7950
Y e a r : 2004
GLP : yes
Test substance : as prescribed by 1.1 • 1.4

Method : The procedures used in the test were based on the recommendations of the following guideline: U.S. EPA Product Properties Test Guidelines OPPTS 830.7950.

A dose level of 0.1% (w/w) was chosen to ensure that the sand prepared for use in the preliminary and definitive tests would be coated with an excess of test substance. The sand and test substance solution were thoroughly mixed together by stirring. The coated sand was placed in a fume hood to allow the solvent to evaporate. The dry, treated sand was placed into a 2-L **carboy** and tumbled for a total of approximately 4 hours.

Prior to using the sand in the preliminary test, three 1 g aliquots of the sand were transferred to 20 mL scintillation vials. Each sand portion was extracted with 2x10 mL and 1x5 mL portions of acetonitrile. The extract volumes were pooled into graduated cylinders. The final volumes of the extracts were adjusted with acetonitrile. Each extract was diluted for analysis and was analyzed by HPLC. A single 1 g aliquot of sand not coated with the test substance was also extracted, diluted, and analyzed to serve as a control.

Preliminary Test

A preliminary test was performed, in which the dosed sand was distributed evenly into 3 vapor saturator columns labeled Test 1, 2, and 3. A control vapor saturator column was previously filled with a similar amount of sand that was not coated with test substance. The saturator columns containing the dosed sand and the saturator column containing the control sand were placed inside glass water jackets in an environmental chamber and were attached to a flow-controlled gas manifold. The temperature of the environmental chamber was maintained at **25+1°C**. Nitrogen gas was passed through each saturator column overnight.

On the following day, a primary ("A") and a secondary ("B") vapor trap were attached end-to-end to the systems on the effluent port of each of the saturator columns with the primary vapor trap before the secondary vapor trap. No test substance was added to these traps. Three spiked traps were prepared by applying test substance solution to each trap. One spiked trap was connected to the end of each dosed saturator column after

2. Physico-Chemical Data

Id 13472-08-7

Date 15.052006

the secondary trap. A single vapor trap, containing no test substance, was connected to the effluent port of the control saturator column. All connections used for the test system were of Teflon or parafilm.

The flow rate of all systems was adjusted to **10 mL/min** and measured with a digital flow meter. The temperature of the environmental chamber was measured at the same time the flow rates were measured.

The preliminary test systems were terminated after approximately 168 hours (7 days) (the saturator columns remained in the environmental chamber under nitrogen flow). The primary, secondary, and spiked cartridges were extracted and analyzed.

The HPLC analysis of the primary trap extracts indicated that the concentration of the test substance was above the standard curve. Therefore, the eluates were diluted and then analyzed by HPLC. All samples were refrigerated when not in use.

Definitive Test

The definitive test duration was chosen based on the amount of test material collected in the preliminary phase.

A primary ("A") and a secondary ("B") vapor trap were attached end-to-end to the systems on the effluent port of each of the saturator columns with the primary vapor trap before the secondary vapor trap. No test substance was added to these traps. Three spiked traps were prepared by applying test substance solution to each trap. One spiked trap was connected to the end of each dosed saturator column after the secondary trap. A single vapor trap, containing no test substance, was connected to the effluent port of the control saturator column. All connections used for the test system were of Teflon or parafilm.

The flow rate of all systems was adjusted to **10 mL/min** and measured with a digital flow meter. Flow rates were confirmed and adjusted several times throughout the study.

The vapor traps from the **10 mL/min** definitive test were terminated after approximately 24 hours (1 day). The "A" (primary) and "B" (secondary), spiked, and control vapor traps were extracted. Each extract was diluted and then analyzed by HPLC.

The **8 mL/min** definitive test was conducted exactly as described for the **10 mL/min** definitive test, with the exception that the flow of nitrogen through the saturator columns was **8 mL/min**.

The backpressure at the outlet to the saturator column caused by the vapor traps at nitrogen flow rates of **10** and **8 mL/min** was measured at the test temperature. Three vapor traps were prepared and connected as in the preliminary and definitive tests, with the exception that no test substance was spiked onto any of the traps. The saturator column containing the control sand used in the definitive test and maintained in the 25°C environmental chamber was used. The vapor traps were placed on the saturator column, the nitrogen flow was set to **8 mL/min**, and the system was equilibrated overnight.

The backpressure was measured by placing a U-tube manometer filled with mercury between the saturator column and the vapor traps and measuring the pressure difference shown on the manometer. Flow rates were measured immediately before placing the manometer between the saturator column and the vapor traps. After letting the system equilibrate for about 10 minutes, a pressure reading was taken. This procedure was

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repeated twice for a total of 3 readings. The atmospheric pressure was measured using a NOVA mercury barometer. The backpressure at the outlet to the saturator column caused by the vapor traps at a nitrogen flow rate of 10 mL/min was determined as described for the 8 mL/min test. All solutions were refrigerated when not in use.

Following the termination of the definitive study, a 1 g aliquot of sand from each saturator column was extracted and analyzed for stability confirmation.

The vapor pressure was determined using the equations below:

Vapor Density $d = m/G \times t$

where:

d = vapor density (g/mL)

m = mass of trapped test material (g)

G = nitrogen flow rate (mL/min)

t = test duration (min)

Vapor Pressure $P =$

$d \times [Vm \times (t = 273.15) \times PB \times PB/M \times 273.15 \times PC]$

where:

P = vapor pressure (Pa)

d = vapor density (g/mL)

M = molecular weight of the test substance (g/mol)

Vm = molar volume of ideal gas (22.4E03 mL/mol)

t = temperature at saturator outlet (°C)

PB = pressure of nitrogen at saturator outlet (Pa)
(atmospheric pressure + backpressure, Pa)

PC = pressure of nitrogen at outlet of vapor traps
(atmospheric pressure)

Remark : Reliability: High because a scientifically defensible or guideline method was used.
Result : 0.354 Pa (0.00354 hPa) at a flow rate of 10 mL/min
0.408 Pa (0.00408 hPa) at a flow rate of 8 mL/min
16.12.2005 (1)

Remark : Additional Reference for Vapor Pressure:
13.12.2005 (18)

2.5 PARTITION COEFFICIENT

Partition coefficient : octanol-water
Log pow : 2.07 at 20 °C
pH value
Method : other (measured): U.S. EPA Product Properties Test Guidelines OPPTS 830.7550.
Year : 2004
GLP : **yes**
test substance : as prescribed by 1.1 - 1.4
Method : The procedures used in this test were based on the recommendations of the following guideline: U.S. EPA Product Properties Test Guidelines OPPTS 830.7550.

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Preliminary Test

A volume of test substance solution in octanol saturated with water was added to each of 4 plastic centrifuge tubes. Reagent water saturated with octanol was added to each centrifuge tube. The tubes were capped, and the caps secured with electrical tape. The samples were placed on a shaker in a 20°C environmental chamber. Shaking was performed in the dark. After 2 and 24 hours, 2 samples were removed from the shaker, and were centrifuged at 20°C for 30 minutes. The octanol and aqueous phases were then separated.

The octanol phases were diluted using acetonitrile. The diluted samples were further diluted and analyzed by HPLC. The aqueous phases were also diluted for analysis.

Octanol quality control samples were prepared in triplicate, diluted, and analyzed by HPLC. Aqueous quality control samples were prepared in duplicate and diluted for analysis.

Definitive Test

The definitive test was performed at 3 volume ratios of octanol to water. The ratios were 1:1, 2:1, and 1:2 (v:v), or twice, the same, and ½ the volume ratio used during the preliminary test. Each volume ratio was performed in duplicate.

Volumes of the test substance solution in octanol saturated with reagent water were added to duplicate plastic centrifuge tubes. Reagent water saturated with octanol was added to each centrifuge tube. The tubes were capped, and the caps secured with electrical tape. The samples were placed on a shaker in a 20°C environmental chamber. Shaking was performed in the dark. After 24 hours, the samples were removed from the shaker, and centrifuged at 20°C for 30 minutes. The octanol and aqueous phases were then separated. The octanol and aqueous phases were diluted and analyzed by HPLC.

Octanol quality control samples were prepared in duplicate, diluted, and final dilutions were analyzed by HPLC. Aqueous quality control samples were prepared in duplicate and diluted for analysis.

The pH of each definitive test aqueous phase sample was measured.

The octanol/water partition coefficient (Kow) was calculated from the following equation:

$$Kow = Co/Cw$$

where:

Co = concentration of test substance at equilibrium in octanol phase

Cw = concentration of test substance at equilibrium in aqueous phase

Remark : Reliability: High because a scientifically defensible or guideline method was used. (2)
03.01.2006

Partition coefficient : octanol-water

Log pow : 3.86 at °C

pH value

Method

Year

GLP : no

Test substance : as prescribed by 1.1 - 1.4

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Method : Modeled. The **KOWWIN** computer program, version 1.66 from Syracuse Research Corporation, calculates the Log **octanol/water** partition coefficient (log Kow) of organic chemicals using an atom/fragment contribution method. The methodology is described in Meylan and Howard, 1995.

Remark : Reliability: Estimated value based on accepted model.

16.12.2005

(27)

2.6.1 SOLUBILITY IN DIFFERENT MEDIA

Solubility in Value : Water
: 392 mg/l at 20 °C
pH value : 6.4
concentration : at °C

Temperature effects
Examine different pol.

pKa : at 25 °C

Description :

Stable :

Deg. product

Method : other: U.S. EPA Product Properties Test Guidelines OPPTS 830.7840.

Year : 2004

GLP : yes

Test substance : as prescribed by 1.1 - 1.4

Method : The procedures used in this test were based on the recommendations of the following guideline: U.S. EPA Product Properties Test Guidelines OPPTS 830.7840.

Preliminary Test

Approximately 35 mg of the test substance was weighed into two plastic centrifuge tubes. Twenty mL of reagent water was added to each tube. The 2 samples were placed on a shaker in a 20°C environmental chamber. After approximately 2 hours, the samples were removed from the shaker and centrifuged for 30 minutes at 20°C to settle any undissolved test substance that remained in the tubes. The supernatant of each sample was diluted for analysis. A dilution of a separate test substance stock solution was analyzed concurrently with the samples.

Quality control samples were prepared in duplicate. The samples were placed on a shaker in the 20°C environmental chamber for 2 hours, and were diluted for analysis. All samples were refrigerated when not in use.

Definitive Test

Three test samples (replicates 1, 2, and 3) were prepared by adding test substance to plastic centrifuge tubes. Reagent water was added to each tube. The samples were capped, and the caps secured with electrical tape. They were placed on a platform shaker in a 20°C environmental chamber.

After approximately 24, 48, and 72 hours, the replicate samples 1, 2, and 3, respectively, were removed from the shaker in the 20°C environmental chamber. The samples were centrifuged for 30 minutes at 20°C. The supernatant was diluted for analysis in duplicate. Quality control samples were prepared in triplicate. The samples were placed on a shaker in the 20°C environmental chamber. One sample was removed at the 24-, 48-, and 72-hour sample points. The samples were diluted for analysis. The pH of the sample supernatants was measured after centrifugation. All solutions were refrigerated when not in use.

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Remark : Reliability: High because a scientifically defensible or guideline method was used.

Result : 392 +/- 5 µg/mL. (3)
16.12.2005

Solubility in : Water
Value : 4.9 mg/l at 25 °C

pH value
concentration : at °C

Temperature effects :

Examine different pol. :

pKa : at 25 °C

Description

Stable

Deg. product

Method : other: Modeled

Year

GLP : no

Test substance : as prescribed by 1.1 - 1.4

Method : WsKow v1.4 in EPIWIN v3.05 (SRC Database).

WsKow estimates the water solubility (Wsol) of an organic compound using the compound's log octanol-water partition coefficient (log Kow). This estimation methodology is described in Meylan and Howard, 1994a, 1994b and in Meylan et al., 1996.

Remark : Reliability: Estimated value based on accepted model. (25) (26) (29)
16.12.2005

Remark : Additional References for Water Solubility:
13.12.2005

2.6.2 SURFACE TENSION

2.7 FLASH POINT

Remark : Not Applicable
03.01.2006

2.8 AUTO FLAMMABILITY

4

2.9 FLAMMABILITY

Result : flammable
Method : other: Method is not available
Year
GLP : no data
Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: Not assignable because limited study information was available.
Result : Flammable limits in air, % by volume: LEL = 0.034 g/L, UEL = Not determined

2. Physico-Chemical Data

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16.12.2005 Autoignition Temperature = 185°C (18)

Remark : Additional Reference for Flammability:
13.12.2005 (20)

2.10 EXPLOSIVE PROPERTIES

2.11 OXIDIZING PROPERTIES

2.12 DISSOCIATION CONSTANT

2.13 VISCOSITY

2.14 ADDITIONAL REMARKS

3. Environmental Fate and Pathways

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3.1.1 PHOTODEGRADATION

Type : air
Light source :
Light spectrum : nm
Relative intensity : based on intensity of sunlight
Deg. product :
Method : other (calculated): Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research Corporation.
Year :
GLP : no
Test substance : as prescribed by 1.1 • 1.4

Method : Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research Corporation. The AOP Program, Version 1.90 from Syracuse Research Corporation, estimates the Atmospheric Oxidation Potential. The AOP program estimates the rate constant for the atmospheric, gas-phase reaction between photochemically produced hydroxyl radicals and organic chemicals. The methodology used by the Atmospheric Oxidation Program is based upon the structure-activity relationship (SAR) methods developed by Dr. Roger Atkinson and coworkers (Atkinson, 1984 and Atkinson et al., 1987; 1995; 1996). The AOP Program is described in Meylan and Howard, 1993.

Remark : Reliability: Estimated value based on accepted model.
Result : Direct Photolysis: Not Applicable

Indirect Photolysis: OH Half-life = 3.605 days (12-hour day; concentration of OH radicals = 1.5×10^6 OH/cm³).

Breakdown Products: No Data

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3.1.2 STABILITY IN WATER

Type : abiotic
t1/2 pH4 : at °C
t1/2 pH7 : at °C
t1/2 pH9 : at °C
Deg. product :
Method : other (calculated)
Year :
GLP : no
Test substance : as prescribed by 1.1 • 1.4

Method : The Henry's Law constant for butanenitrile, 2,2'-azobis(2-methyl- (Vazo 67) is estimated to be 1.97×10^{-6} atm m³/mole (Henry v3.10 Program, Bond SAR Method in SRC Epiwin v3.05) from its estimated vapor pressure (6.7×10^{-4} mm Hg; MPBPWIN v1 .40) and estimated water solubility (4.905 mg/L; WSKOW v1 .40). The estimated volatilization half-life from a model river (1 m deep, flowing 1 m/sec, wind velocity of 5 m/sec) is based on the Henry's Law constant.

Remark : Reliability: Estimated value based on accepted model.
Result : The estimated half-life for a model river is 422.9 years. Based on the Henry's Law constant, the estimated volatilization half-life from a model river (1 m deep, flowing 1 m/sec, wind velocity of 5 m/sec) is approximately 412 hours. The estimated volatilization half-life from a model lake (1 m deep, flowing 0.05 m/sec, wind velocity of 0.5 m/sec) is approximately 4616

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hours (EPIWIN v. 3.11).

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3.1.3 STABILITY IN SOIL

3.2.1 MONITORING DATA

3.2.2 FIELD STUDIES

3.3.1 TRANSPORT BETWEEN ENVIRONMENTAL COMPARTMENTS

Type : fugacity model level III
Media : other: Air, water, soil, sediment
Air : % (Fugacity Model Level I)
Water : % (Fugacity Model Level I)
Soil : % (Fugacity Model Level I)
Biota : % (Fugacity Model Level II/III)
Soil : % (Fugacity Model Level II/III)
Method : other: Calculated
Year

Method : Calculated according to Mackay, Level III, Syracuse Research Corporation Epiwin Version 3.05. Emissions (1000 **kg/hr**) to air, water, and soil compartments using standard EPA Model defaults.

Data Used:

Molecular Weight: 192.27

Henry's Law Constant: 1.97x 10⁻⁶ **atm-m³/mole** (calculated from experimentally determined water **solubility** and vapor pressure)

Vapor Pressure: 0.00306 mm Hg (converted from experimentally determined value of 0.408 Pa)

Log Kow : **2.07(experimentally determined)**

Soil Koc : 48.2 (**calc.** by Level III model)

Remark : Reliability: Estimated value based on accepted model.
Syracuse Research Corporation EPIWIN **v3.05** contains a Level III fugacity model. The methodology and programming approach was developed by Dr. Donald Mackay and coworkers which is detailed in: Mackay, 1991 and Mackay et al., **1996a**, 1996b.

Result : Distributions:

Released 100% to air: Air = 22.3%; water = 16.2%; soil = 61.4%; and sediment = 0.07%

Released 100% to water: Air = 0.12%; water = 99.1%; soil = 0.32%; and sediment = 0.43%

Released 100% to soil: Air = 0.214%; water = 10.3%; soil = 89.4%; and sediment = 0.04%

16.12.2005

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3.3.2 DISTRIBUTION

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3.4 MODE OF DEGRADATION IN ACTUAL USE

3.5 BIODEGRADATION

3.6 BOD5, COD OR BOD5/COD RATIO

3.7 BIOACCUMULATION

Species : other: Modeled
Exposure period : at °C
Concentration
BCF : 7.83
Elimination
Method : other
Year
GLP : no
Test substance : as prescribed by 1.1- 1.4

Method : Calculated by BCFWIN Computer Program, **Vers.** 2.15, Syracuse Research Corporation.

The estimation methodology used by BCFWIN is described in the following document prepared for the U. S. Environmental Protection Agency (OPPT): "Improved Method for Estimating Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient," SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S. Boethling, EPA-OPPT, Washington, DC; Contract No. 68D5-0012; prepared by William M. Meylan, Philip H. Howard, Dallas Aronson, Heather **Printup**, and Sybil Gouchie; Syracuse Research Corp., Environmental Science Center, 6225 Running Ridge Road, North Syracuse, NY 13212.

Remark : Reliability: Estimated value based on accepted model.
Result : BCF = 7.83 (log BCF = 0.894).

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3.8 ADDITIONAL REMARKS

4. Ecotoxicity

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4.1 ACUTE/PROLONGED TOXICITY TO FISH

Type : other: Modeled
Species : other: Fish
Exposure period : 96 hour(s)
Unit : mg/l
LC50 : 122.5
Method : other
Year :
GLP : no
Test substance : as prescribed by 1 .1 - 1.4

Method : Modeled as described in the Useh Guide for the ECOSAR Class Program, Version 0.993 (Mar **99**), prepared for J. Vincent Nabholz and Gordon Cas, U.S. Environmental Protection Agency, **Office** of Pollution Prevention and Toxics, Washington, DC, prepared by Syracuse Research Corp., Environmental Science Center, Syracuse, NY 13210.

Remark : Reliability: Estimated value based on accepted model.
Result : Estimated **96-hour LC50** in fish = 122.5 mg/L; based on a log Kow = 2.07.
16.12.2005 (28)

4.2 ACUTE TOXICITY TO AQUATIC INVERTEBRATES

Type : other: Modeled
Species : other: Daphnia sp.
Exposure period : 48 hour(s)
Unit : mg/l
EC50 : 131.9
Method : other
Year :
GLP : no
Test substance : as prescribed by 1 .1 - 1.4

Method : Modeled as described in the User's Guide for the ECOSAR Class Program, Version 0.993 (Mar **99**), prepared for J. Vincent Nabholz and Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics, Washington, DC, prepared by Syracuse Research Corp., Environmental Science Center, Syracuse, NY 13210.

Remark : Reliability: Estimated value based on accepted model.
Result : Estimated **48-hour EC50** for Daphnia sp. = 131.9 mg/L; based on a log Kow = 2.07.
16.12.2005 (28)

4.3 TOXICITY TO AQUATIC PLANTS E.G. ALGAE

Species : Selenastrum capricornutum (Algae)
Endpoint : growth rate
Exposure period : 72 hour(s)
Unit : mg/l
NOEC : 12.5
EC50 : 67
Limit test :
Analytical monitoring : yes
Method : OECD Guide-line 201 "Algae, Growth Inhibition Test"
Year : 2004
GLP : yes

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Test substance	: as prescribed by 1.1 • 1.4
Method	OECD Guideline 201 (1984) and EEC Directive 92/69/EEC Annex 5, Part c.3.
Remark	<p>The EC50 value for growth rate was calculated based on 5 measured concentrations (6.20, 12.3, 24.5, 49.3, and 99.5 mg/L). DMF (100 mg/L) was used as a co-solvent.</p> <p>Both cell count, growth, and area under the curve were determined for <i>Selenastrum capricornutum</i> in this study.</p> <p>Reliability: High because a scientifically defensible or guideline method was used.</p>
Result	<p>The reductions in healthy cell count, area under the growth curve, and growth for <i>Selenastrum capricornutum</i> at 72 hours (3 days) indicated a dose-dependent response for increasing concentrations of the test substance. The most sensitive parameter was area under the growth curve with an EC50 of 31.3 mg/L and a NOEC of 12.5 mg/L, based on mean measured test concentrations. The ability to recover was assessed at measured concentrations of 49.3 and 99.5 mg/L. The test substance was determined to be algistatic at measured concentrations less than or equal to 99.5 mg/L.</p> <p>Results:</p> <p>Area Under the Growth Curve EC50 = 31.3 mg/L (95% confidence limits, 23.6-39.1 mg/L); NOEC = 12.5 mg/L</p> <p>Growth Rate EC50 = 67.0 mg/L (95% confidence limits, 60.5-74.1 mg/L); NOEC = 12.5 mg/L</p> <p>Healthy Cell Count EC50 = 38.1 mg/L (95% confidence limits, 32.6-44.6 mg/L); NOEC = 12.5 mg/L</p>
15.02.2006	(19)
Species	other algae
Endpoint	other: Modeled
Exposure period	96 hour(s)
Unit	mg/l
EC50	82.8
Method	other: Modeled
Year	
GLP	no
Test substance	as prescribed by 1.1 • 1.4
Method	Modeled as described in the User's Guide for the ECOSAR Class Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution Prevention and Toxics, Washington, DC, prepared by Syracuse Research Corp., Environmental Science Center, Syracuse, NY 13210.
Remark	Reliability: Estimated value based on accepted model.
Result	Estimated 96-hour EC50 for green algae = 82.8 mg/L; based on a log Kow = 2.07.
16.12.2005	(28)

4.4 TOXICITY TO MICROORGANISMS E.G. BACTERIA

4.5.1 CHRONIC TOXICITY TO FISH

4. Ecotoxicity

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4.5.2 CHRONIC TOXICITY TO AQUATIC INVERTEBRATES

4.6.1 TOXICITY TO SEDIMENT DWELLING ORGANISMS

4.6.2 TOXICITY TO TERRESTRIAL PLANTS

4.6.3 TOXICITY TO SOIL DWELLING ORGANISMS

4.6.4 TOX. TO OTHER NON MAMM. TERR. SPECIES

4.7 BIOLOGICAL EFFECTS MONITORING

4.8 BIOTRANSFORMATION AND KINETICS

4.9 ADDITIONAL REMARKS

5. Toxicity

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5.0 TOXICOKINETICS, METABOLISM AND DISTRIBUTION

5.1.1 ACUTE ORAL TOXICITY

Type : LD50
Value : 337 mg/kg bw
Species : rat
Strain : Sprague-Dawley
Sex : no data
Number of animals
Vehicle
Doses : 202, 254, 320, and 402 mg/kg
Method : OECD Guide-line 401 "Acute Oral Toxicity"
Year : 1991
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: High because a scientifically defensible and guideline method were used.

Result : The incidence of mortality was 0, 0, 50, and 80% at 202, 254, 320, and 402 mg/kg. All mortality occurred by day 2. Clinical signs of toxicity, which were seen in surviving and dead animals at all dose levels, included lethargy, staggered gait, muscle tremor, piloerection, salivation, and hunched posture. The surviving animals had no clinical signs of toxicity by day 6. The gross necropsy of dead animals showed abnormal gastrointestinal contents and a single observation of dark areas on the glandular mucosa of the stomach. There were no significant changes observed in the gross necropsy of surviving animals.

Test substance : Perkadox AMBN, purity 98.5%.
16.12.2005 (7)

Remark : Data from this additional source supports the study results summarized above. This study was not chosen for detailed summarization because the data were not substantially additive to the database.
16.12.2005 (13)

5.1.2 ACUTE INHALATION TOXICITY

Type : other: ALC
Value : > 8.9 mg/l
Species : rat
Strain : other: CrI:CD
Sex : male
Number of animals : 24
Vehicle :
Doses : 1.8, 3.7, and 8.9 mg/L
Exposure time : 4 hour(s)
Method : other
Year : 1983
GLP : no
Test substance : as prescribed by 1.1 - 1.4

Method : Groups of 6 rats (7-8 weeks old) were exposed nose-only for single, 4-hour periods to dust atmospheres of the test substance in air at concentrations of 1.8, 3.7, and 8.9 mg/L (the highest concentration that could be

5. Toxicity

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generated). Rats were weighed and observed daily for 14 days post exposure, weekends included when deemed necessary.

Dust atmospheres were generated and calibrated volumes of test atmosphere were drawn through pre-weighed glass fiber filters. Atmospheric concentration was determined from filter weight gain. Percent and mass median diameter of respirable particulate were determined during each exposure. Chamber temperature was monitored.

Remark : Reliability: Medium because a suboptimal study design was used. Only a small percentage of particles in the exposure atmospheres were of respirable size.

Result : No mortality was observed at any exposure level tested. The % respirable particulates <10 μm was 11, 25 or 31, and 24 at 1.8, 3.7, and 8.9 mg/L , respectively. The % respirable particulates <5 μm was 2.0, 8.2 or 10, and 8.2 at 1.8, 3.7, and 8.9 mg/L , respectively. The mass median diameter of respirable particulate (μm), calculated for particles less than 10 μm , was 6.8 or 7.5, and 5.1 at 3.7 and 8.9 mg/L , respectively. The mass median diameter of respirable particulate for the 1.8 mg/L group could not be calculated.

All rats exhibited slight to severe weight loss 1 day post exposure. At 8.9 mg/L , 1 rat continued to lose weight for 1 more day. Weight loss was followed by normal weight gain. Rats exposed to 1.8 and 3.7 mg/L exhibited red to brown ocular and/or nasal discharge for 1 day post-exposure. No other adverse clinical signs were observed.

Test substance : Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity >98%
16.12.2005

(17)

5.1.3 ACUTE DERMAL TOXICITY

5.1.4 ACUTE TOXICITY, OTHER ROUTES

5.2.1 SKIN IRRITATION

Species : rabbit
Concentration :
Exposure : Semiocclusive
Exposure time : 4 hour(s)
Number of animals :
Vehicle :
PDII :
Result : not irritating
Classification :
Method : OECD Guide-line 404 "Acute Dermal Irritation/Corrosion"
Year : 1991
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Method : OECD 404. A 0.5 g sample was applied directly to the skin, and covered by a gauze patch, for a 4-hour exposure period. The control site was covered by a similar semi-occlusive dressing.

Remark : High because a scientifically defensible and guideline method was used.
Result : There was no irritation seen in any of the three New Zealand white rabbits used in the study during the 72-hour observation period.

Test substance : Perkadox AMBN, purity 98.5%
16.12.2005

(5)

5. Toxicity

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Remark : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.

16.12.2005 (14) (15)

5.2.2 EYE IRRITATION

Species : rabbit
Concentration :
Dose : 28.4 other: mg
Exposure time : .33 minute(s)
Comment :
Number of animals : 2
Vehicle : none
Result : not irritating
Classification :
Method : other
Year : 1980
GLP : no
Test substance : as prescribed by 1 .1 ▪ 1.4

Method : The solid test substance (28.4 mg) was placed into the right conjunctival sac of each of 2 male albino rabbits. After 20 seconds, 1 treated eye was washed with tap water for 1 minute. The treated eye of the other rabbit was not washed. Observations of the cornea, iris, and conjunctiva were made with a hand-slit lamp at 1 and 4 hours, and at 1, 2, and 3 days. **Fluor-i-strip** stain and a biomicroscope were used at examinations after the day of treatment.

Remark : **Reliability:** High because a scientifically defensible or guideline method was used.

Result : The test substance produced no corneal, **iritic**, or conjunctival effects at any time when tested in rabbit eyes.

Test substance : Butanenitrile, **2,2'-azobis(2-methyl-** (Vazo(R) 67), purity 100%
16.12.2005 (16)

Species : rabbit
Concentration :
Dose : .1 other: g
Exposure time :
Comment :
Number of animals : 3
Vehicle : none
Result :
Classification :
Method : other: OECD 404
Year : 1991
GLP : **yes**
Test substance : as prescribed by 1 .1 ▪ 1.4

Method : OECD 404. A 0.1 g sample was instilled into the right eye of the animals. The left eye was untreated.

Remark : High because a scientifically defensible and guideline method was used.

Result : There was no irritation seen in any of the three animals used in the study at the 24-hour observation period until the end of the study (**72-hour** observation period). There was irritation of the conjunctiva and slight chemosis seen in all animals, and iritis seen in two animals at the 1-hour observation period.

Test substance : Perkadox AMBN, purity 98.5%.
16.12.2005 (6)

5. Toxicity

Id 13472-08-7

Date 15.052006

5.3 SENSITIZATION

Type
Species : guinea pig
Number of animals : 30
Vehicle : other: Dimethyl phthalate
Result : not sensitizing
Classification
Method : other
Year : 1980
GLP : no
Test substance : as prescribed by 1.1-1.4

Method : The primary irritation test was conducted on 10 Duncan Hartley guinea pigs by applying 0.05 mL of an 80% and an 8% suspension of the test substance in dimethyl phthalate (DMP) on shaved, intact shoulder skin.

The induction phase for sensitization was a series of 4 sacral **intra**dermal injections of 0.1 mL of a 1.0% suspension in DMP, 1 each week beginning 2 days after the test for primary irritation. After a **13-day** rest period, the test guinea pigs were challenged for sensitization by applying and lightly rubbing in 0.05 mL of an 80% and an 8% suspension of the test substance in DMP on shaved intact shoulder skin. At the same time 10 unexposed guinea pigs (controls) of the same age received identical topical application. Reactions were observed at 24 and 48 hours.

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Result : The test substance caused no irritation on shaved intact skin of guinea pigs at 24 or 48 hours. None of the test guinea pigs showed a sensitization response.

Test substance : Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity 100%
16.12.2005

(14)

5.4 REPEATED DOSE TOXICITY

5.5 GENETIC TOXICITY 'IN VITRO'

Type : Salmonella typhimurium reverse mutation assay
System of testing : Salmonella typhimurium strains TA98, TA100, TA1535, TA1537
Test concentration : 50-5000 ug/plate
Cycotoxic concentr. :
Metabolic activation : with and without
Result : negative
Method : OECD Guide-line 471
Year : 1991
GLP : yes
Test substance : as prescribed by 1.1-1.4

Method : OECD 471. Positive controls used were benzo[a]pyrene, 2 nitrofluorene, 2-aminoanthracene, 9-aminoacridine, and sodium azide. The solvent was DMSO. Exogenous metabolic activation was rat liver S-9.

Remark : Reliability: High because a scientifically defensible and guideline method was used.

Result : No evidence of mutagenic activity was detected, with or without metabolic activation.

Test substance : Perkadox AMBN, purity 98.5%.

5. Toxicity

Id 13472-08-7
Date 15.052006

16.12.2005 (8)

Remark : Data from this additional source support the study results summarized above. This study was not chosen for detailed summarization because the data were not substantially additive to the database.

16.12.2005 (32)

5.6 GENETIC TOXICITY 'IN VIVO'

Type : Micronucleus assay
Species : mouse
Sex : male
Strain : other: ddY
Route of admin. : oral unspecified
Exposure period :
Doses : not available
Result : negative
Method : other
Year : 1993
GLP : no data
Test substance : as prescribed by 1 .1 ▪ 1.4

Method : The micronucleus test using acridine orange staining method was performed in male mice (**8-weeks** old) following double oral administration.
Remark : Reliability: Not assignable because limited study information **was** available.
Result : At 24 and 48 hours after treatment, the test substance did not produce a significant increase in the frequency of micronucleated polychromatic erythrocytes in the bone marrow of the treated mice.

Test substance : Butanenitrile, 2,2'-azobis(2-methyl-, purity not specified.

16.12.2005 (32)

5.7 CARCINOGENICITY

5.8.1 TOXICITY TO FERTILITY

5.8.2 DEVELOPMENTAL TOXICITY/TERATOGENICITY

5.8.3 TOXICITY TO REPRODUCTION, OTHER STUDIES

5.9 SPECIFIC INVESTIGATIONS

5.10 EXPOSURE EXPERIENCE

5.11 ADDITIONAL REMARKS

6.1 ANALYTICAL METHODS

6.2 DETECTION AND IDENTIFICATION

7. Eff. Against Target Org. and Intended Uses

Id 13472-08-7
Date 15.052006

7.1 FUNCTION

7.2 EFFECTS ON ORGANISMS TO BE CONTROLLED

7.3 ORGANISMS TO BE PROTECTED

7.4 USER

7.5 RESISTANCE

8.1 METHODS HANDLING AND STORING

8.2 FIRE GUIDANCE

8.3 EMERGENCY MEASURES

8.4 POSSIB. OF RENDERING SUBST. HARMLESS

8.5 WASTE MANAGEMENT

8.6 SIDE-EFFECTS DETECTION

8.7 SUBSTANCE REGISTERED AS DANGEROUS FOR GROUND WATER

8.8 REACTIVITY TOWARDS CONTAINER MATERIAL

9. References

Id 13472-08-7

Date 15.05.2006

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- (2) ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 48125, Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co., Inc. (DuPont-15138) "Determination of n **Octanol/Water** Partition Coefficient (Shake Flask Method) for **2,2'-Azobis-(Methylbutyronitrile)** CAS# 13472-08-7" (May 20).
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- (20) DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses, Storage, and Handling (also cited in TSCA Fiche OTS0000937).

9. References

Id 13472-08-7

Date 15.052006

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- (23) Mackay, D. et al. (1996b). Environ. Toxicol. Chem., **15(9):1627-1637**.
- (24) Meylan, W. M. and P. H. Howard (1993). Chemosphere, **26:2293-2299**.
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- (29) Meylan, W. M. et al. (1996). Environ. Toxicol. Chem., **15:100-106**.
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- (31) Syracuse Research Corporation **EPIWIN** Version 3.11.
- (32) Takenaka, S. I. et al. (1993). J. Toxicol. Sci., **18(4):418**.

10. Summary and Evaluation

Id 13472-08-7
Date 15.052006

10.1 END POINT SUMMARY

10.2 HAZARD SUMMARY

10.3 RISK ASSESSMENT

201-14255D

RECEIVED
UNIT 6010

2006 MAY 17 AM 8:31

I U C L I D

Data Set

Existing Chemical : ID: 78-67-1
CAS No. : 78-67-1
EINECS Name : 2,2'-dimethyl-2,2'-azodipropionitrile
EC No. : 201-132-3
Molecular Formula : C₈H₁₂N₄

Producer related part
Company : E. I. du Pont de Nemours and Company
Creation date : 15.12.2005

Substance related part
Company : E. I. du Pont de Nemours and Company
Creation date : 15.12.2005

Status
Memo

Printing date : 15.05.2006
Revision date
Date of last update : 15.02.2006

Number of pages : 34

Chapter (profile) : Chapter: 1, 2, 3, 4, 5, 6, 7, 8, 10
Reliability (profile) : Reliability: without reliability, 1, 2, 3, 4
Flags (profile) : Flags: without flag, confidential, non confidential, WGK (DE), TA-Luft (DE),
Material Safety **Dataset**, Risk Assessment, Directive 67/548/EEC, SIDS

1. General Information

Id 78-67-1
Date 15.052006

1.0.1 APPLICANT AND COMPANY INFORMATION

1.0.2 LOCATION OF PRODUCTION SITE, IMPORTER OR FORMULATOR

1.0.3 IDENTITY OF RECIPIENTS

1.0.4 DETAILS ON CATEGORY/TEMPLATE

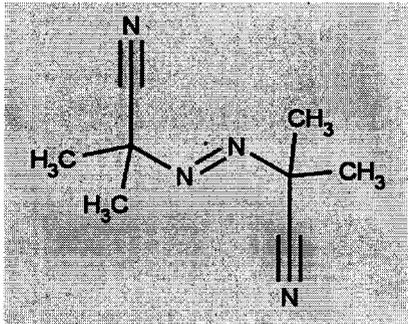
1.1.0 SUBSTANCE IDENTIFICATION

IUPAC Name : 2,2'-Azobis(2-methylpropanenitrile)
Smiles Code
Molecular formula :
Molecular weight : 164.2
Petrol class

16.12.2005

1.1.1 GENERAL SUBSTANCE INFORMATION

Attached document : Vazo 64 structure.bmp



10.01.2006

1.1.2 SPECTRA

1.2 SYNONYMS AND TRADENAMES

2,2'-Azo-bis(isobutyronitrile)

15.12.2005

2,2'-Azobis(2-methylpropionitrile)

15.12.2005

1. General Information

Id 78-67-I
Date 15.052006

2,2'-Dicyano-2,2'-azopropane

15. 12. 2005

2,2'-Dimethyl-2,2'-azopropionitrile

1512. 2005

1512. 2005

15. 12. 2005

15. 12. 2005

AIBN

15. 12. 2005

Alpha, alpha'-arobis(isobutyronitrile)

15. 12. 2005

Alpha,alpha'-azodiisobutyric acid dinitrile

1512. 2005

Alpha,alpha'-azodiisobutyronitrile

15. 12. 2005

Azobis(isobutyronitrile)

15. 12. 2005

Azodiisobutyrodinitrile

15. 12. 2005

Azodiisobutyronitrile

15. 12. 2005

Genitron®

04. 01. 2006

04. 01. 2006

Pianofor AN

1512. 2005

Porofor N

1. General Information

Id 78-67-i
Date 15.05.2006

15.12.2005

Porofor-57

15.12.2005

Purifier N

15.12.2005

Vazo® 64

15.12.2005

1.3 IMPURITIES

1.4 ADDITIVES

1.5 TOTAL QUANTITY

1.6.1 LABELLING

1.6.2 CLASSIFICATION

1.6.3 PACKAGING

1.7 USE PATTERN

1.7.1 DETAILED USE PATTERN

1.7.2 METHODS OF MANUFACTURE

1.8 REGULATORY MEASURES

1.8.1 OCCUPATIONAL EXPOSURE LIMIT VALUES

Type of limit : other: DuPont Acceptable Exposure Limit (AEL) a-hour TWA
Limit value : 1 mg/m3

Remark : The 12-hour TWA value is 0.7 mg/m3.
15.12.2005

(17)

1. General Information

Id 78-67-1
Date 1505.2006

1.8.2 ACCEPTABLE RESIDUES LEVELS

1.8.3 WATER POLLUTION

1.8.4 MAJOR ACCIDENT HAZARDS

1.8.5 AIR POLLUTION

1.8.6 LISTINGS E.G. CHEMICAL INVENTORIES

1.9.1 DEGRADATION/TRANSFORMATION PRODUCTS

1.9.2 COMPONENTS

1.10 SOURCE OF EXPOSURE

Remark : AMBN and its analogous compound, **AIBN** are solid free-radical initiators used industrially in polymerization reactions. Although the products have slightly different properties, they may, in most cases, be used interchangeably. There are no direct consumer uses of these products. Both compounds decompose when exposed to heat, releasing nitrogen gas and carbon-centered radicals. End-use applications include acrylics, resins, industrial polymers, and foams. The materials react rapidly and completely; thus, neither is recognizable in end-use products, and consumer exposure is unlikely. Transport of dry product in **temperature-controlled** containers is required for shipment of any amount greater than 100 grams. Exposure to either material would not occur during shipping, unless container integrity is compromised.

During manufacturing uses, the most likely exposure is to skin, with some potential of airborne exposure during material transfer operations. The major manufacturers of AMBN practice Responsible Care. Specific manufacturing procedures and industrial hygiene programs in place at manufacturing sites limit the potential for employee exposure through use of engineering controls, environmental controls, and personal protective equipment. DuPont has set an Acceptable Exposure Limit (AEL) of 1 **mg/mg3** TWA for both AMBN and AIBN. DuPont also has a program to assess the ability of potential customers to safely handle the materials prior to commencing a commercial relationship. This assessment includes reviews and audits of PPE (personal protective equipment), safety equipment and procedures, structural integrity, and safety practices.

1502.2006

1.11 ADDITIONAL REMARKS

Remark : **AIBN** is exempt from the HPV program because it has already been

1. General Information

Id 78-67-I

Date 15.052006

evaluated through the Organization of Economic Cooperation and Development (OECD) high production volume (HPV) program. A **SIDS** Initial Assessment Report (SIAR) was prepared for evaluation by the Ninth SIAM convened in France June 29 through July 1, 1999. The studies listed below were selected to represent the best available study design and execution for these HPV toxicity endpoints. Other data of equal or lesser quality are not summarized, but are listed as related references in this document.

04.01.2006

1.12 LAST LITERATURE SEARCH

1.13 REVIEWS

2. Physico-Chemical Data

Id 78-67-I
Date 15.05.2006

2.1 MELTING POINT

Value : 100 - 103 °C
Decomposition : no, at °C
Sublimation : no
Method : other
Year
GLP : no
Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: Not assignable because limited study information was available.
16.12.2005 (39)

Remark : Additional Reference for Melting Point:
15.12.2005 (17)

2.2 BOILING POINT

Remark : Not Applicable
04.01.2006

2.3 DENSITY

Type : relative density
Value : ca. 1.1 at °C
Method : other: Method not available
Year
GLP : no data
Test substance : as prescribed by 1.1 - 1.4

Remark : bulk density = ca. 25 lbs/ft³
04.01.2006 Reliability: Not assignable because limited study information was available. (17)

Remark : Additional Reference for Density:
15.12.2005 (18)

2.3.1 GRANULOMETRY

2.4 VAPOUR PRESSURE

Value : .0081 hPa at 25 °C
Decomposition
Method : OECD Guide-line 104 "Vapour Pressure Curve"
Year
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: High because a scientifically defensible or guideline method was used.

2. Physico-Chemical Data

Id 78-67-I

Date 15.052006

Test substance : The purity of the test substance was 99.6%.
04.01.2006 (39)

Value : .0019 hPa at 25 °C

Decomposition

Method : other (calculated)

Year

GLP : no

Test substance : as prescribed by 1.1- 1.4

Method : Syracuse Research Corporation (SRC) program (SRC **MPBPWIN v1 .40** in **EPIWIN v3.05**) estimates the vapor pressure using the modified Grain method. A description of the methodology is detailed in Lyman, 1985.

Remark : Reliability: Estimated value based on accepted model.
04.01.2006 (33) (46)

Remark : Additional References for Vapor Pressure:
04.01.2006 (17)

2.5 PARTITION COEFFICIENT

Partition coefficient : octanol-water

Log pow : 1.1 at 25 °C

pH value

Method : OECD Guide-line 107 "Partition Coefficient (n-octanol/water), Flask-shaking Method"

Year

GLP : yes

Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Test substance : purity of the test substance was 98%.
16.12.2005 (39)

2.6.1 SOLUBILITY IN DIFFERENT MEDIA

Solubility in : Water

Value : 350 mg/l at 25 °C

pH value

concentration : at °C

Temperature effects :

Examine different pol.

pKa : at 25 °C

Description

Stable :

Deg. product

Method : OECD Guide-line 105

Year :

GLP : yes

Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Result : 350 mg/L (slightly soluble)

Test substance : purity of the test substance was 99.6%.
16.12.2005 (39)

2. Physico-Chemical Data

Id 78-67-I
Date 15.05.2006

Solubility in : Water
Value : 851 ,1 mg/l at 25 °C
pH value :
concentration : at °C
Temperature effects :
Examine different pol. :
pKa : at 25 °C
Description :
Stable :
Deg. product :
Method : other: Modeled
Year :
GLP : no
Test substance : as prescribed by 1 .1 ▪ 1.4

Method : Modeled. SRC's Database **Wskow** estimates the water solubility (Wsol) of an organic compound using the compound's log octanol-water partition coefficient (log Kow). The estimation methodology is described in Meylan et al., 1996.

Remark : Reliability: Estimated value based on accepted model. (36) (46)
04.01.2006

Remark : Additional References for Water Solubility: (17) (18)
15.12.2005

2.6.2 SURFACE TENSION

2.7 FLASH POINT

Remark : Not Applicable
04.01.2006

2.8 AUTO FLAMMABILITY

2.9 FLAMMABILITY

Method : other: Not available
Year
GLP : no data
Test substance : as prescribed by 1 .1 ▪ 1.4

Remark : Reliability: Not assignable because limited study information was available.
Result : Flammable limits in air, % by volume: LEL = 0.02 g/L, UEL = Not determined

Autoignition Temperature = 295°C
04.01.2006 (17)

Remark : Additional Reference for Flammability: (18)
15.12.2005

2. Physico-Chemical Data

Id 78-67-1
Date 15.052006

2.10 EXPLOSIVE PROPERTIES

2.11 OXIDIZING PROPERTIES

2.12 DISSOCIATION CONSTANT

2.13 VISCOSITY

2.14 ADDITIONAL REMARKS

3. Environmental Fate and Pathways

Id 78-67-I

Date 15.05.2006

3.1.1 PHOTODEGRADATION

Type : air
Light source
Light spectrum : n m
Relative intensity : based on intensity of sunlight
Deg. product
Method : other (calculated)
Year
GLP : no
Test substance : as prescribed by 1.1- 1.4

Method : Calculated by AOP Computer Program, Vets. 1.90, Syracuse Research Corporation. The AOP Program, Version 1.90 from Syracuse Research Corporation, estimates the Atmospheric Oxidation Potential. The AOP program estimates the rate constant for the atmospheric, gas-phase reaction between photochemically produced hydroxyl radicals and organic chemicals. The methodology used by the Atmospheric Oxidation Program is based upon the structure-activity relationship (SAR) methods developed by Dr. Roger Atkinson and coworkers (Atkinson et al., 1984, 1987, 1995, 1996). The AOP Program is described in Meylan and Howard, 1993.

Remark
Result : Reliability: Estimated value based on accepted model.
Indirect Photolysis: OH Half-life = 15.99 days (12-hour day; concentration of OH radicals = 1.5×10^6 OH/cm³).

04.01.2006 (3) (4) (5) (6) (34)

3.1.2 STABILITY IN WATER

Type : abiotic
t1/2 pH4 : 263 day(s) at 25 °C
t1/2 pH7 : 304 day(s) at 25 °C
t1/2 pH9 : 210 day(s) at 25 °C
Deg. product
Method : OECD Guide-line 111 "Hydrolysis as a Function of pH"
Year
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Test substance : 2,2'-Azobis(2-methylpropionitrile), purity 99.6%
16.12.2005 (39)

3.1.3 STABILITY IN SOIL

3.2.1 MONITORING DATA

3.2.2 FIELD STUDIES

3.3.1 TRANSPORT BETWEEN ENVIRONMENTAL COMPARTMENTS

3. Environmental Fate and Pathways

Id 78-67-I
Date 15.05.2006

Type : fugacity model level III
Media : other: Air, water, soil, and sediment
Air : % (Fugacity Model Level I)
Water : % (Fugacity Model Level I)
Soil : % (Fugacity Model Level I)
Biota : % (Fugacity Model Level II/III)
Soil : % (Fugacity Model Level II/III)
Method : other
Year :

Method : fugacity model level III
Remark : Reliability: Estimated value based on accepted model.
Result : Released 100% to air: Air = 31 .0%; water = 40.9%; soil = 27.9%; and sediment = 0.2%

Released 100% to water: Air = 0.5%; water = 98.6%; soil = 0.5%; and sediment = 0.4%

Released 100% to soil: Air = 0.7%; water = 28.6%; soil = 70.6%; and sediment = 0.1%

16.12.2005

(39)

3.3.2 DISTRIBUTION

3.4 MODE OF DEGRADATION IN ACTUAL USE

3.5 BIODEGRADATION

Type : aerobic
Inoculum : other: Secondary activated sludge
Concentration : .7 mg/l related to Test substance related to
Contact time 110 day(s)
Degradation 7 (±)% after 28 day(s)
Result
Deg. product
Method : OECD Guide-line 301 D "Ready Biodegradability: Closed Bottle Test"
Year
GLP yes
Test substance as prescribed by 1 .1 • 1.4

Method OECD Guideline 301. Secondary activated sludge was used as the inoculum. The concentration of the test substance used was 0.7 mg/L. The vehicle was dichloromethane.
Remark Reliability: High because a scientifically defensible and guideline method was used.
Result : Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN) biodegraded 7% at day 28 (with silica gel). There was no biodegradation at day 20. The biodegradation only slightly increased to about 15% in the prolonged study of approximately 110 days.
Test substance Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN)

16.12.2005

(2)

Remark : Data from this additional source support the study results summarized above. This study was not chosen for detailed summarization because the data were not substantially additive to the database.

3. Environmental Fate and Pathways

Id 78-67-I

Date 15.052006

16.12.2005

(39)

3.6 BOD5, COD OR BOD5/COD RATIO

3.7 BIOACCUMULATION

Species : other: Modeled
Exposure period : at °C
Concentration :
BCF : 1.4
Elimination
Method : other
Year :
GLP : no
Test substance : as prescribed by 1.1- 1.4

Method : Calculated by BCFWIN Computer Program, Vers. 2.14, Syracuse Research Corporation (based on reference below).

The estimation methodology used by BCFWIN is described in the following document prepared for the U. S. Environmental Protection Agency (OPPT): "Improved Method for Estimating Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient," SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S. Boethling, EPA-OPPT, Washington, DC; Contract No. 68 D5-0012; prepared by William M. Meylan, Philip H. Howard, Dallas Aronson, Heather Printup, and Sybil Gouchie; Syracuse Research Corp., Environmental Science Center, 6225 Running Ridge Road, North Syracuse, NY 13212.

Remark : **Reliability:** Estimated value based on accepted model.
Result : 1.403 (Log BCF = 0.147)

04.01.2006

(37)

3.8 ADDITIONAL REMARKS

4. Ecotoxicity

Id 78-67-I
Date 15.052006

4.1 ACUTE/PROLONGED TOXICITY TO FISH

Type : semistatic
Species : Brachydanio rerio (Fish, fresh water)
Exposure period : 96 hour(s)
Unit : mg/l
NOEC : 250
LC50 : 580
Method : OECD Guide-line 203 "Fish, Acute Toxicity Test"
Year : 1996
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Method : OECD Guideline 203. Fish (7/dose group) were exposed to 62.5, 125, 250, 500, or 1000 mg/L under semi-static conditions. The temperature was 22.5-23.5°C. The oxygen concentrations were 8.6-8.9 mg/L. The pH ranged from 7.9-8.2. The water hardness was 12°dH. The fish had an average size of 3.1 cm and an average weight of 0.31 g.

Remark : Reliability: Medium because a suboptimal study design was used (nominal test concentrations).

Result : There was no mortality or signs of toxicity observed at concentrations of 62.5, 125, and 250 mg/L. There was 29% mortality at 500 mg/L and 100% mortality at 1000 mg/L. The NOEC was 250 mg/L.

Test substance : Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN), purity 99.2%
04.01.2006 (1)

Type : other: Modeled
Species : other: Fish
Exposure period : 96 hour(s)
Unit : mg/l
LC50 : 853.9
Method : other
Year :
GLP : no
Test substance : as prescribed by 1.1 - 1.4

Remark : Reliability: Estimated value based on accepted model.

Result : 853.9 mg/L; log Kow = 1.1
04.01.2006 (35)

Remark : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.
04.01.2006 (16) (27)

4.2 ACUTE TOXICITY TO AQUATIC INVERTEBRATES

Type : static
Species : Daphnia magna (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/l
EC50 : 397
Method : other
Year : 1997
GLP : no
Test substance : as prescribed by 1.1- 1.4

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- Method** : Daphnia magna were exposed to the test substance in a static, acute 48-hour screening test. Nominal concentrations tested were 0, 0.5, 1 .0, 50, 500, and 5000 mg/L, with replicate test chambers used at each dose level. Dissolved oxygen and pH were reported at test initiation (0 hours) and test completion (48 hours).
- Remark** : Reliability: Medium because a suboptimal study design was used (nominal test concentrations).
- Result** : The test substance exhibited slight toxicity in a 48-hour, unaerated, static acute test using Daphnia magna. Based on visual observations, the water control solution was clear and had no color, and the 0.5, 1 .0, 50,500, and 5000 mg/L test solutions all had undissolved test material present throughout the test. Immobilities were 0, 0, 0, 0, 60, and 100% at 0, 0.5, 1 .0, 50, 500, and 5000 mg/L, respectively. All water quality parameters were within acceptable limits. Dissolved oxygen at test initiation and completion was 8.4 mg/L. The pH ranged from 7.7-7.8 and 7.9-8.2 at test initiation and completion, respectively. The 48-hour EC50 was 397 mg/L (95% confidence interval, 193-811 mg/L).
- Test substance** : Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64) purity not specified
16.12.2005 (15)
- Type** : other: Modeled
Species : Daphnia sp. (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/l
EC50 : 859.8
Method : other: Modeled by ECOSAR
Year :
GLP : no
Test substance : as prescribed by 1.1- 1.4
- Remark** : Reliability: Estimated value based on accepted model.
Result : 859.8 mg/L; log Kow = 1.1
04.01.2006 (35)
- Remark** : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.
16.12.2005 (26) (45)

4.3 TOXICITY TO AQUATIC PLANTS E.G. ALGAE

- Species** : Selenastrum capricornutum (Algae)
Endpoint : biomass
Exposure period : 72 hour(s)
Unit : mg/l
NOEC : 4.2
EC50 : > 9.4
Limit test :
Analytical monitoring : yes
Method : OECD Guide-line 201 "Algae, Growth Inhibition Test"
Year : 1996
GLP : yes
Test substance : as prescribed by 1 .1 - 1.4
- Method** : OECD Guideline 201 (1984) was performed. The EC50 value for growth rate (% inhibition) was calculated based on 5 measured concentrations (0.46, 0.71, 2.1, 4.2, and 9.4 mg/L). DMF of 100 mg/L was used as a solubilizer.

4. Ecotoxicity

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Remark : Reliability: High because a scientifically defensible or guideline method was used.

Test substance : Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.3%
04.01.2006 (27)

Species : other algae: Green algae

Endpoint : other

Exposure period : 96 hour(s)

Unit : mg/l

EC50 : 510.4

Method : other: Modeled by ECOSAR

Year

GLP : no

Test substance : as prescribed by 1 .1 - 1.4

Remark : Reliability: Estimated value based on accepted model.

Result : 96-hour EC50 = 510.4 mg/L; log Kow = 1 .1
04.01.2006 (35)

Remark : Data from this additional source support the study results summarized above. This study was not chosen for detailed summarization because the data were not substantially additive to the database.

16.12.2005 (45)

4.4 TOXICITY TO MICROORGANISMS E.G. BACTERIA

4.5.1 CHRONIC TOXICITY TO FISH

4.5.2 CHRONIC TOXICITY TO AQUATIC INVERTEBRATES

4.6.1 TOXICITY TO SEDIMENT DWELLING ORGANISMS

4.6.2 TOXICITY TO TERRESTRIAL PLANTS

4.6.3 TOXICITY TO SOIL DWELLING ORGANISMS

4.6.4 TOX. NON MAMM. TERR. SPECIES

4.7 BIOLOGICAL EFFECTS MONITORING

4.8 BIOTRANSFORMATION AND KINETICS

4.9 ADDITIONAL REMARKS

5. Toxicity

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Date 15.052006

5.0 TOXICOKINETICS, METABOLISM AND DISTRIBUTION

5.1.1 ACUTE ORAL TOXICITY

Type : LD50
Value : 360 mg/kg bw
Species : rat
Strain : Sprague-Dawley
Sex : male/female
Number of animals :
Vehicle :
Doses : 251, 316, 398, and 501 mg/kg
Method : other
Year : 1974
GLP : no
Test substance : as prescribed by 1.1-1.4

Method : Male and female Sprague Dawley rats (**5/dose** level) were given single oral doses of a 10.0% solution-suspension in corn oil at doses of 251, 316, 398, and 501 **mg/kg**. Clinical signs of toxicity were recorded. Survivors were killed 14 days later and gross autopsy was performed.

Remark : Reliability: Medium because a suboptimal study design was used.
Result : Mortality was **0/5, 1/5, 4/5, and 5/5** at 251, 316, 398, and 501 **mg/kg**. Mortality occurred in 1 to 5 days, with most deaths within 2 days. Clinical signs of toxicity included reduced appetite and activity (2-3 days in survivors), increasing weakness, tremors, collapse, and death. Gross autopsy of animals that died revealed hemorrhagic areas of the lungs and liver, and acute gastrointestinal inflammation. The viscera appeared normal in survivors. The LD50 was 360 **mg/kg** (95% confidence limits, 340-380 mg/kg).

Test substance : Propanenitrile, **2,2'-azobis(2-methyl-**, purity not specified
04.01.2006 (40)

Remark : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.
16.12.2005 (8)

5.1.2 ACUTE INHALATION TOXICITY

Type : LC50
Value : > 7.78 mg/l
Species : rat
Strain : other: CrI:CD®
Sex : male/female
Number of animals : 40
Vehicle :
Doses : 1.57, 3.40, and 7.78 mg/L
Exposure time : 1 hour(s)
Method : other
Year : 1984
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Method : The method was in accordance with the International Maritime Dangerous

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Id 78-67-I

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- Code (IMDG code, pg. 6003-I ,2). Male and female **CrI:CD®** rats (1 O/exposure level) were exposed nose only to the test substance at concentrations of 1.57, 3.40, and 7.78 **mg/L**. All rats were weighed and observed daily for 2 weeks post-exposure, except for the Saturday and Sunday of the 2nd week post-exposure. At approximately 10-minute intervals, calibrated volumes of test atmospheres were drawn through **pre-**weighed glass fiber filters, and atmospheric concentrations were determined. Percent respirability (equal to or less than 10 **µm**) was determined during each exposure. Percent respirability was 7.96, 10.0, and 6.65 at 1.57, 3.40, and 7.78 **mg/L**, respectively.
- Remark** : Reliability: Medium because a suboptimal study design was used. Only a small percentage of particles in the exposure atmospheres were of respirable size.
- Result** : One male rat died 1 day after exposure to 1.57 **mg/L**. No other deaths occurred throughout the study. Most rats exhibited moderate to severe weight losses 1 or 2 days after exposure, followed by a return to a normal weight gain rate. Approximately 1/2 of the rats exhibited wet or stained perineal areas for 1 to 2 days after exposure. Most females exhibited sporadic weight loss during the **2-week** observation period. Seven of 10 female rats exposed to 7.78 **mg/L** had hair loss, mainly around the head, face, and forelegs. No male rats had **hairloss** at this concentration. Two males and 1 female had back or foreleg hair loss after exposure to 3.40 **mg/L**; no rats had hair loss after exposure to 1.57 **mg/L**. During exposures, rats' faces were covered with dust, which was removed from the fur after the exposure. A dried red discharge around the facial area was observed in some rats a day after exposure, but was not considered test **substance-**related.
- Test substance** : Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64), purity >98%
16.12.2005 (14)
- Remark** : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.
16.12.2005 (11) (13) (20)

5.1.3 ACUTE DERMAL TOXICITY

- Type** : other: ALD
Value : 7940 **mg/kg** bw
Species : rabbit
Strain : New Zealand white
Sex : male/female
Number of animals
Vehicle : other: Corn oil
Doses : 5010 and 7940 mg/kg
Method : other
Year : 1974
GLP : no
Test substance : as prescribed by 1.1• 1.4
- Method** : The test substance was applied as a 40.0% solution-suspension in corn oil to the skin of rabbits (1 male or 1 female) for a **24-hour** exposure. Survivors were killed 14 days later.
- Remark** : Reliability: Medium because a suboptimal study design was used.
Result : The animal dosed with 5010 **mg/kg** survived, while the rabbit dosed with 7940 **mg/kg** died within 9 days. Clinical signs observed included reduced appetite and activity (4 days in the survivor), increasing weakness, collapse, and death. Gross autopsy of the rabbit that died revealed hemorrhagic areas of the lungs, liver hyperemia, enlarged gall bladder,

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discolored kidneys, and gastrointestinal inflammation. The viscera of survivors appeared normal.

Test substance : Propanenitrile, **2,2'-azobis(2-methyl-**, purity not specified (40)
16.12.2005

Remark : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database. (19) (20) (44)
16.12.2005

5.1.4 ACUTE TOXICITY, OTHER ROUTES

5.2.1 SKIN IRRITATION

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
Vehicle :
PDII :
Result : not irritating
Classification :
Method : OECD Guide-line 404 "Acute Dermal Irritation/Corrosion"
Year : 1996
GLP : y e s
Test substance : as prescribed by 1 .I . 1.4

Method : Also followed EC Guideline **92/69/E.E.C, B4**
Remark : Reliability: High because a scientifically defensible or guideline method was used.
Result : The test material was not irritating to rabbit skin.
Test substance : Propanenitrile, **2,2'-azobis(2-methyl-**, purity 99.2% (23)
04.01.2006

Remark : Data from these additional sources supports the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database. (19) (40)
16.12.2005

Remark : Data from these additional sources were not summarized because it was not the species of choice. (11) (20) (44)
16.12.2005

5.2.2 EYE IRRITATION

Species : rabbit
Concentration :
Dose :
Exposure time :
Comment :
Number of animals :
Vehicle :
Result : not irritating

5. Toxicity

Id 78-67-I

Date 1505.2006

Classification	:	
Method	:	OECD Guide-line 405 "Acute Eye Irritation/Corrosion"
Year	:	1996
GLP	:	yes
Test substance	:	as prescribed by 1 .1 - 1.4
Method	:	OECD Guideline No. 405 and EC Guideline 92/69/E.E.C., B5.
Remark	:	Reliability: High because a scientifically defensible or guideline method was used.
Result	:	The test material was not irritating to the New Zealand white rabbit eye.
Test substance	:	Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
16.12.2005		(24)
Remark	:	Data from this additional source was not summarized because the study design was not adequate.
16.12.2005		(11)
Remark	:	Data from these additional sources were not summarized because insufficient study information was available.
16.12.2005		(20) (40)

5.3 SENSITIZATION

Type	Guinea pig maximization test
Species	guinea pig
Number of animals	
Vehicle	
Result	not sensitizing
Classification	
Method	OECD Guide-line 406 "Skin Sensitization"
Year	1996
GLP	yes
Test substance	as prescribed by 1 .1 - 1.4
Method	OECD Guideline No. 406 and EC Guideline 92/69/E.E.C., B6.
Remark	Reliability: High because a scientifically defensible or guideline method was used.
Result	The test substance was not sensitizing to Duncan Hartley guinea pigs.
Test substance	Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
16.12.2005	(25)
Type	Patch-Test
Species	human
Number of animals	
Vehicle	
Result	: not sensitizing
Classification	
Method	other
Year	
GLP	no data
Test substance	as prescribed by 1 .1 - 1.4
Method	Patch testing was performed on 173 humans as described in Kanerva et al., 1988, 1997; Estlander, 1990; and Jolanki, 1991, with 2 days occlusion and 3 readings (usually on Days 2, 3, and 4-6). Allergic reactions were scored according to ICDRG recommendations, +, ++, and +++ reactions being considered allergic. Irritant reactions were also recorded. Reactions scored as doubtful (?+) or irritant (IR) were classified as irritant.

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Remark : Reliability: Not assignable because limited study information was available.
Result : At a dose of 1 .0% (w/w), the test substance produced no allergic reactions. It produced an irritant reaction in 1 of 173 humans (0.6%).
Test substance : Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
15.02.2006 (28) (29) (30) (31)

Remark : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.
16.12.2005 (11) (20) (32)

5.4 REPEATED DOSE TOXICITY

Type : Sub-chronic
Species : rat
Sex : male
Strain : other: CrI:CD(R)
Route of admin. : inhalation
Exposure period : 2 weeks
Frequency of treatm. : 6 hours a day, 5 days a week
Post exposure period : 14 days
Doses : 0, 10.0, and 80.0 mg/m³
Control group : yes
Method : other
Year : 1981
GLP : no
Test substance : as prescribed by 1 .1 ▪ 1.4

Method : Groups of rats were exposed head-only. Five rats/group were randomly selected for sacrifice after the 10th exposure, while the remaining 5 rats/group were sacrificed after a **14-day** recovery-observation period. Rats were weighed and observed daily (except weekends) throughout the exposure and recovery period.

Dust atmospheres of the test substance were generated and atmospheric concentration of test substance was determined from weight gain of the filters.

An overnight (16 hour) urine specimen was collected from 10 rats in groups exposed to 0 and 10.0 mg/m³ and 9 rats exposed to 80.0 mg/m³ after the 9th exposure. Blood was taken from these rats after the 10th exposure, then 5 rats from the groups exposed to 0 and 10.0 mg/m³ and 4 rats exposed to 80.0 mg/m³ were sacrificed for pathological examination. Fourteen days later (recovery), blood and urine samples were collected from the rats remaining in each group. Approximately 12 hematologic parameters were measured or calculated.

After the 10th exposure, 5 rats from each group were sacrificed for gross and histopathological examination. Remaining rats were sacrificed on the 14th day of recovery for identical follow-up examination. Seven organs were weighed and 22 tissues/organs were saved for histologic evaluation.

Remark Reliability: High because a scientifically defensible or guideline method was used.

Result The mean TWA concentration was 9.80 and 79.5 mg/m³ for the 10.0 and 80.0 mg/m³ design concentrations. Mass median diameter ranged from 8.0-1 1.5 microns at 80.0 mg/m³.

One rat was sacrificed in extremis, following the 4th exposure to 80 mg/m³. This rat exhibited lung noise, poor righting reflex, stained fur, labored

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breathing, and sluggishness prior to sacrifice. Pathological examination could not explain the cause of death, however, it was not attributed solely to test substance administration.

When compared with controls, rats exposed to 10 **mg/m3** showed a normal rate of weight gain during both the exposure and recovery periods. Mean body weight gain of rats exposed to 80.0 **mg/m3** was significantly reduced on days 2-4 of the exposure period. For the remainder of the test period, these rats exhibited a normal rate of weight gain. No test **substance**-related clinical signs were noted.

All exposed rats tended to have higher serum total proteins than the unexposed controls after 10 exposures. Urine osmolality was lower in rats exposed to 80.0 **mg/m3**. Following the 14-day recovery period, no effect was observed in rats at 10.0 **mg/m3**, but rats at 80.0 **mg/m3** continued to have higher serum total proteins.

No test substance-related pathological lesions occurred in rats exposed to 16.0 **mg/m3**. The 80.0 **mg/m3** rats sacrificed after the 10th exposure exhibited a compound-related liver effect, increased cytoplasmic basophilia of hepatocytes. However, this liver effect was not detected in these rats following a 14-day recovery period. The mean relative liver-to-body weight ratios of exposed rats were significantly higher than the control group after exposure 10. This effect was no longer evident after a 14-day recovery period.

Test substance : Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64), purity 99% (13)
04.01.2006

Type : Sub-chronic
Species : rat
Sex : male/female
Strain : Crj: CD(SD)
Route of admin. : gavage
Exposure period : Males, 42 days; females, 14 days before mating to day 3 of **lacion**
Frequency of treatm. : daily
Post exposure period :
Doses : 0, 2, 10, and 50 mg/kg/day
Control group : **yes**
NOAEL : 2 **mg/kg** bw
LOAEL : 10 **mg/kg** bw
Method : other: OECD Combined Repeat Dose and Reproductive/Developmental Toxicity Screening Tests Guideline 422.

Year : 1997
GLP : **yes**
Test substance : as prescribed by 1 .1 - 1.4

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Result : Males: Temporary salivation was induced at equal to or greater than 10 **mg/kg**. Decrease in body weight gain and food consumption was observed at 50 **mg/kg/day**. In the kidneys, absolute and relative weight was increased in all treatment groups, and in equal to or greater than 10 **mg/kg/day** groups, respectively. In addition, increases in eosinophilic bodies and basophilic changes of the renal tubular epithelial cells were observed in all treatment groups and granular casts in the lower nephrons were observed at equal to or greater than 10 **mg/kg/day**. As these pathological changes were observed only in males, accumulation of **alpha2u-macroglobulin** was suspected as a cause of male specific renal toxicity. Liver weights were significantly increased by 14 and 66% for absolute weight (14 and 74% for relative weight) in the 10 and 50 **mg/kg/day** groups, respectively. Centnlobular hypertrophy of hepatocytes was observed in the 10 and 50 **mg/kg/day** groups (+/-: 4 in 13, +:9 in 13 for

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10 mg/kg, ++: 13 in 13 for 50 mg/kg, compared to no changes in the 0 and 2 mg/kg groups).

In blood analysis, there were several changes at 50 mg/kg, such as an elevation of platelet and white blood cell counts, increases in total protein, albumin, total cholesterol, Ca, and inorganic phosphorus, and decreases in the A/G ratio and Cl concentration.

Females: One animal died on postpartum day 3 at 50 mg/kg/day. Decrease in body weight gain and food consumption was observed at equal to or greater than 10 mg/kg/day. In the kidneys, absolute and relative weights were increased at 50 mg/kg/day. Liver weights were significantly increased by 43% for absolute weight (51% for relative weight) only at 50 mg/kg/day. However, centrilobular hypertrophy of hepatocytes was observed in the 10 and 50 mg/kg/day groups (+/-: 6 in 13, +: 1 in 13 at 10 mg/kg; +/-: 1 in 13, +: 11 in 13, ++: 1 in 13 at 50 mg/kg/day, compared to no changes at 0 and 2 mg/kg/day).

The NOAEL for males and females was 2 mg/kg/day, and the LOAEL for males and females was 10 mg/kg/day.

Test substance : Propanenitrile, 2,2'-azobis(2-methyl-, purity, 99.9%
04.01.2006

(38)

Type : Sub-chronic
Species : dog
Sex : male/female
Strain : Beagle
Route of admin. : oral feed
Exposure period : 90 days
Frequency of treatm. : daily
Post exposure period : no
Doses : 0, 50, 150, 300, and 1000 ppm
Control group : yes
NOAEL : 50 ppm
LOAEL : 150 ppm
Method : other
Year : 1974
GLP : no
Test substance : as prescribed by 1.1 - 1.4

Method : The test substance was incorporated into a stock diet and fed to dogs 7 days/week. Initially, the body weight of each dog was determined and recorded. Thereafter, weighings were conducted weekly for the duration of the test. Food consumption was recorded. Dogs were examined daily for clinical signs or symptoms indicative of systemic toxicity. Five hematologic, 7 blood chemistry, and 7 urinalysis parameters were measured just prior to the inception of the study, after 42 days, and/or after 85 days for the 0, 50, 150, and 300 ppm groups. The parameters were measured in dogs at 1000 ppm just prior to the inception of the study, and on all surviving dogs after 28 days. At the conclusion of the study, animals were sacrificed and given a complete gross necropsy. Nine organ weights were collected, and representative specimens of approximately 35 organs/tissues were saved for histopathologic examination.

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Result : After the death of 1 animal, the surviving 1000 ppm group animals were sacrificed in extremis on Day 28 of the investigation. These animals exhibited body weight losses or no body weight gain, and a reduction in the amount of food consumed during the 4 weeks. The animals were asthenic after 3 weeks on test.

The results of the blood chemistry studies conducted on samples collected

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from the 1000 ppm animals just prior to sacrifice revealed significant increases in serum alkaline phosphatase, serum glutamic-pyruvic transaminase, and serum glutamic-oxalacetic transaminase activities. The results of the hematologic studies and urinalyses conducted on samples obtained from the 1000 ppm animals revealed no unusual findings. The organ weight and ratio data revealed significant increases in liver and kidney to body weight ratios. Histopathologic examination of a series of tissues from the animals fed 1000 ppm revealed morphologic changes in the liver sections,

No deaths occurred in the 0, 50, 150, or 300 ppm groups. No test substance related findings in body weight/gain, food consumption, or clinical signs were observed at 0, 50, 150, or 300 ppm.

The 300 ppm group animals exhibited an increase in serum alkaline phosphatase activity. The females fed 300 ppm exhibited a slight increase in blood thiocyanate. No test substance-related findings were observed in hematologic or urinalysis parameters at 300 ppm, nor were there any test substance-related findings in hematologic, blood chemistry, or urinalysis parameters at 50 or 150 ppm.

Marginal increases in liver to body weight ratios were observed at 300 ppm, and in 1 male at 150 ppm. No other organ weight effects were observed. Histopathologic examination revealed test substance-related morphologic changes in the liver of some animals at 150 and 300 ppm. The number of animals with this finding was greater at 300 ppm, but the finding was regarded to be an adaptive response of the liver. No histopathologic findings were observed at 50 ppm.

Test substance : Propanentriple, **2,2'-azobis(2-methyl-**, purity not specified (41)
16.12.2005

Remark : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database.
16.12.2005 (7) (9) (20) (42) (43)

5.5 GENETIC TOXICITY 'IN VITRO'

Type : Bacterial reverse mutation assay
System of testing : Salmonella typhimurium strains TA98, TA100, TA1535, TA1537, TA97 (without S9 mix), Escherichia coli WP2 uvrA
Test concentration : With and without metabolic activation: 0, 313, 625, 1250, 2500, 5000 ug/plate
Cycotoxic concentr. :
Metabolic activation : with and without
Result : negative
Method : OECD Guide-line 471
Year : 1 9 9 7
GLP : yes
Test substance : as prescribed by 1.1 - 1.4
Method : Guidelines for Screening Mutagenicity Testing of Chemicals (Japan) and OECD Guideline No. 471 and 472. The positive control for tests with metabolic activation was **2-aminoanthracene** (5 strains). Positive controls for tests without metabolic activation included sodium **azide (TA1 535)**, **9-aminoacridine (TA1537 and TA97)**, and **2-(2-furyl)-3-(5-nitro-2-furyl)acrylamide (TA100, TA98, and WP2)**. Metabolic activation was phenobarbital and **5,6-benzoflavone** induced rat liver S9.
Remark : Reliability: High because a scientifically defensible or guideline method was

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Date 1505.2006

used.

Result : Toxicity was not observed when tested with or without exogenous metabolic activation. Precipitation was observed at concentrations of 1250 and 2500 **ug/plate** when tested with and without metabolic activation, respectively. The test substance was negative for induction of mutations when tested with and without metabolic activation.

Test substance : Propanenitrile, **2,2'-azobis(2-methyl-**, purity 99.9% (38)
15.02.2006

Remark : Data from these additional sources support the study results summarized above. These studies were not chosen for detailed summarization because the data were not substantially additive to the database. (12) (20) (21) (22) (47)
04.01.2006

Type : Chromosomal aberration test
System of testing : Chinese hamster lung (CHUIU) cells
Test concentration : 0, 0.40, 0.80, 1.6 **mg/mL**
Cycotoxic concentr. :
Metabolic activation : with and without
Result : negative
Method : OECD Guide-line 473
Year : **1997**
G L P : **yes**
Test substance : as prescribed by 1 .1 - 1.4

Method : Guide for Screening Mutagenicity Testing of Chemicals (Japan) and OECD Guideline No. 473. The short-term treatment was 6 hours, and the continuous treatment was 24 and 48 hours. The positive controls were cyclophosphamide and mitomycin for the tests with and without activation, respectively. Exogenous Metabolic Activation: With and without phenobarbital and **5,6-benzoflavone** rat liver induced **S9**.

Remark : Reliability: High because a scientifically defensible or guideline method was used.

R e s u l t : Cytotoxicity was not observed. The test substance was negative for clastogenicity and polyploidy when tested both in the presence and absence of metabolic **S9** activation.

Test substance : Propanenitrile, **2,2'-azobis(2-methyl-**, purity 99.9% (38)
16.12.2005

5.6 GENETIC TOXICITY 'IN VIVO'

Type : Micronucleus assay
Species : mouse
Sex : male
Strain : other: **ddY**
Route of admin. : oral unspecified
Exposure period :
Doses :
Result : negative
Method : other
Year : **1993**
GLP : no data
Test substance : as prescribed by 1 .1 - 1.4

Method : A micronucleus test was performed using groups of male mice orally administered 2 doses of the test substance.

Remark : **Reliability:** Not assignable because limited study information was available.
Result : At both 24 and 48 hours after treatment, the test substance did not produce a significant increase in the frequency of micronucleated polychromatic

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Date 1505.2006

Test substance : erythrocytes in the bone marrow of the treated mice.
16.12.2005 : Propanenitrile, **2,2'-azobis(2-methyl-**, purity not specified (47)

5.7 CARCINOGENICITY

5.8.1 TOXICITY TO FERTILITY

5.8.2 DEVELOPMENTAL TOXICITY/TERATOGENICITY

Species : rat
Sex : male/female
Strain : Crj: CD(SD)
Route of admin. : gavage
Exposure period : Males: from 14 days before mating to 14 days after mating; Females: from 14 days before mating to day 3 of lactation
Frequency of treatm. : daily
Duration of test :
Doses : 0, 2, 10, and 50 mg/kg/day
Control group : **yes**
NOAEL maternal tox. : 10 **mg/kg** bw
Method : other: OECD Combined Repeat Dose and Reproductive/Developmental Toxicity Screening Test Guideline 422
Year : 1997
GLP : **yes**
Test substance : as prescribed by 1 .1 - 1.4

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Result : There were no adverse effects of the test substance on copulation and fertility, duration of pregnancy, gestation index, or parturition of all treated groups. Three of 12 dams at 50 **mg/kg** showed difficulty of nursing, and 2 of them let all their offspring die within the first 4 days after birth. The test substance had no adverse effects on viability, sex ratio, or body weight gain of pups. However, viability of newborns at birth and body weight of nurslings on postnatal day 4 was lower than the control level at 50 **mg/kg/day**. These changes were considered to be caused by maternal toxicity. There were no morphological abnormalities in pups of any treatment group.

The NOAEL for the parental generation was 10 **mg/kg/day**. The NOAEL for the F1 offspring was 50 mg/kg/day.

Test substance : Propanenitrile, **2,2'-azobis(2-methyl-**, purity 99.9% (36)
04.01.2006

5.8.3 TOXICITY TO REPRODUCTION, OTHER STUDIES

Type : other
In vitro/in vivo : In vivo
Species : rat
Sex : male/female
Strain : Crj: CD(SD)
Route of admin. : gavage
Exposure period : Males: From 14 days before mating to 14 days after mating; Females: From 14 days before mating to day 3 of lactation

5. Toxicity

Id 78-67-I

Date 1505.2006

Frequency of treatm. : daily
Duration of test :
Doses : 0, 2, 10, and 50 mg/kg/day
Control group : yes
Method : other
Year : 1997
GLP : yes
Test substance : as prescribed by 1.1 - 1.4

Method : OECD Combined Repeat Dose and Reproductive/Developmental Toxicity Screening Test Guideline 422

Remark : Reliability: High because a scientifically defensible or guideline method was used.

Result : There were no adverse effects of the test substance on copulation and fertility, duration of pregnancy, gestation index, or parturition of all treated groups. Three of 12 dams at 50 mg/kg showed difficulty of nursing, and 2 of them let all their offspring die within the first 4 days after birth. The test substance had no adverse effects on viability, sex ratio, or body weight gain of pups. However, viability of newborns at birth and body weight of nurslings on postnatal day 4 was lower than the control level at 50 mg/kg/day. These changes were considered to be caused by maternal toxicity. There were no morphological abnormalities in pups of any treatment group.

The NOAEL for the parental generation was 10 mg/kg/day. The NOAEL for the F1 offspring was 50 mg/kg/day.

Test substance : Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
16.12.2005

(38)

5.9 SPECIFIC INVESTIGATIONS

5.10 EXPOSURE EXPERIENCE

5.11 ADDITIONAL REMARKS

6.1 ANALYTICAL METHODS

6.2 DETECTION AND IDENTIFICATION

7. Eff. Against Target Org. and Intended Uses

Id 78-67-1

Date 15. 052006

7.1 FUNCTION

7.2 EFFECTS ON ORGANISMS TO BE CONTROLLED

7.3 ORGANISMS TO BE PROTECTED

7.4 USER

7.5 RESISTANCE

8.1 METHODS HANDLING AND STORING

8.2 FIRE GUIDANCE

8.3 EMERGENCY MEASURES

8.4 POSSIB. OF RENDERING SUBST. HARMLESS

8.5 WASTE MANAGEMENT

8.6 SIDE-EFFECTS DETECTION

8.7 SUBSTANCE REGISTERED AS DANGEROUS FOR GROUND WATER

8.8 REACTIVITY TOWARDS CONTAINER MATERIAL

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10. Summary and Evaluation

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10.1 END POINT SUMMARY

10.2 HAZARD SUMMARY

10.3 RISK ASSESSMENT

201-10255E

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C International Uniform Chemical Information Database
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C Column 6-80: Blockname / Fieldvalue
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C Company   : Du Pont de Nemours & Co., Inc. 19714 Delaware, Newark
C*****
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V      IUCLID-Export  V4.00
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C
NL     GBR
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F002  Y26-001
EOB
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BOO6  SUBST_IDENT_TAB
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F005  1
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F003  Y27-006
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F003  Y27-002
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F005  102
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BOO3  DS_ADMIN_TAB
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F009  N
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F006  13-12-2005
F007  11031159
F008  13-12-2005
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F003 15-02-2006
F102 **A35-01**
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F003 E. I. du Pont de Nemours and Company
F004 1007 Market Street
FO05 Wilmington, Delaware
F006 19898
F008 **A31-024**
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C ***** N E W D A T A S *****
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D 58
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B052 DS_COMPONENT_JOIN_TAB
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F004 2
F005 2
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F002 0
F003 2.5
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F005 1
FO06 03-01-2006
F007 13-12-2005
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F001 58
F002 0
F003 2.5
F004 2
F005 2
F006 16-12-2005
F007 13-12-2005
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F001 58
F002 0
F003 2.6.1
F004 1
F005 1
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F007 13-12-2005
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F002 0
F003 2.6.1
F004 2
F005 2
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F007 13-12-2005

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F001 58

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F005 3

F006 13-12-2005

F007 13-12-2005

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F007 13-12-2005

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F007 13-12-2005

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F007 13-12-2005
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F001 58

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F003 4.1

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F006 16-12-2005
F007 14-12-2005

EOR

F001 58

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F007 10-01-2006

EOR

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F003 1.11

F004 1

F005 1

F006 10-01-2006

F007 10-01-2006

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F001 58

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F003 1.10

F004 1

F005 1

F006 15-02-2006

F007 15-02-2006

EOB

C

B051 DS_COMPONENT_TAB

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F003 13472-08-7

F012 N

F010 13-12-2005

F004 11031159

F005 13-12-2005

F006 11031159

F007 13-12-2005

EOB

C

B007 GI_SUBSTANCE_TAB

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F002 1

F003 16-12-2005

F004 GRAHAMRC

F009 192.26

F011 2,2'-Azobis[2-methylbutanenitrile]

EOB

C

B101 GI_GENERAL_INFORM_TAB

F001 58

F002 2

F003 10-01-2006

F004 GRAHAMRC

F013 1

EOB

C

B102 GI_SYNONYM_TAB

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F003 13-12-2005

F004 GRAHAMRC

F007 2,2'-Azobismethylethylacetonitrile

EOR

F001 58

F002 2

F003 13-12-2005

F004 GRAHAMRC

F007 2,2'-Azobis-2-methylbutyronitrile

EOR

F001 58

F002 3

F003 13-12-2005

F004 GRAHAMRC

F007 2,2'-Asodi(2-methylbutyronitrile)

EOR

F001 58

F002 4

F003 13-12-2005

F004 GRAHAMRC

F007 2,2'-Azobis(2-cyanopentane)

EOR

F001 58

F002 5

F003 13-12-2005

F004 GRAHAMRC

F007 2,2-Azobisisovaleronitrile

EOR

F001 58

F002 6

F003 16-12-2005

F004 GRAHAMRC

F007 2,2'-Azobis(alpha-methylbutyronitrile)

EOR

F001 58

F002 7

F003 13-12-2005

F004 GRAHAMRC
F007 2,2'-Dimethyl-2,2'-azodibutyronitrile
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F002 8
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F007 Azocatalyst M
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F004 **GRAHAMRC**
F007 Azostarter V 59
EOR
F001 58
F002 10
F003 13-12-2005
F004 GRAHAMRC
F007 V 59
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F001 58
F002 11
F003 13-12-2005
F004 GRAHAMRC
F007 Perkadox AMBN
EOR
F001 58
F002 12
F003 16-12-2005
F004 GRAHAMRC
F007 **Vazo(R)** 67
EOR
F001 58
F002 13
F003 16-12-2005
F004 GRAHAMRC
F007 **Vazo(R)** 64-A
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F003 13-12-2005
F004 GRAHAMRC
F007 Wako V 59
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B109 GI_EXPO_LIMIT_TAB
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B110 GI_SOURCE_OF_EXPOSURE_TAB

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B114 GI_OTHER_TAB
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F002 1
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F004 MIKLESKA
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F008 49.4

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F003 03-01-2006
F004 MIKLESKA
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F007 P05-03
F009 1.1
F013 P04-03: Method not available

F018 A01-01
EOR
F001 58
F002 2
F003 13-12-2005
F004 GRAHAMRC

EOB

C

B204 PC_VAPOUR_TAB

F001 58

F002 1

F003 16-12-2005

F004 GRAHAMRC

F008 .00354

F010 P02-01

F011 25

F012 **P06-04**: U.S. EPA Product Properties Test Guidelines OPPTS 830.7950

F013 2004

F014 **A03-03**

F017 **A30-02**

F018 **A01-01**

EOR

F001 58

F002 2

F003 13-12-2005

F004 GRAHAMRC

EOB

C

B205 PC-PARTITION-TAB

F001 58

F002 1

F003 03-01-2006

F004 MIKLESKA

F008 2.07

F010 20

U.S. EPA Product Properties Test Guidelines OPPTS 830.7550.

F012 2004

F013 **A03-03**

F016 **A01-01**

F020 **C15-001**

EOR

F001 58

F002 2

F003 16-12-2005

F004 GRAHAMRC

F008 3.86

F013 **A03-01**

F016 **A01-01**

F020 **C15-001**

EOB

C

B206 PC-WATER-SOL-TAB

F001 58

F002 1

F003 16-12-2005

F004 GRAHAMRC

F008 **P08-02**

F009 392

F011 20

F013 6.4

F020 **P09-03**: U.S. EPA Product Properties Test Guidelines OPPTS 830.7840.

F021 2004

F022 **A03-03**

F025 A01-01
F030 C14-001
EOR
F001 58
F002 2
F003 16-12-2005
F004 GRAHAMRC
F008 P08-02
F010 4.9
F011 25
F020 P09-03: Modeled
F022 A03-01
F025 A01-01
F030 C14-001
EOR
F001 58
F002 3
F003 13-12-2005
F004 GRAHAMRC
EOB
C
B207 PC-FLASH-TAB
F001 58
F002 1
F003 03-01-2006
F004 MIKLESKA
F014 1
EOB
C
B209 PC_FLAMM_TAB
F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 P16-04
F008 P15-05: Method is not available
F010 A03-02
F013 A01-01
EOR
F001 58
F002 2
F003 13-12-2005
F004 GRAHAMRC
EOB
C
B301 EN-PHOTODEGRADATION-TAB
F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 F01-01
F009 F02-05: Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research
* Corporation.
F043 A03-01
EOB
C

B302 EN-STABILITY-IN-WATER-TAB

F001 58

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 A01-01

F008 **F08-01**

F009 F09-08

F039 **A03-01**

EOB

C

B305 EN-TRANSPORT-TAB

F001 58

F002 1

F003 16-12-2005

F004 **GRAHAMRC**

F007 **F20-07**

F008 **F22-01: Air, water, soil, sediment**

F009 F21-01: Calculated

EOB

C

B310 **EN_BIOACCUMULATION_TAB**

F001 58

F002 1

F003 03-01-2006

F004 MIKLESKA

F007 A01-01

F008 **E02-0161: Modeled**

F009 F34-06

F017 7.83

F020 **A03-01**

EOB

C

B401 **EC_FISHTOX_TAB**

F001 58

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 **A01-01**

F008 **E01-03: Modeled**

F009 E02-0161: Fish

F010 E03-05

F012 96

F013 **E04-02**

F014 **E05-02**

F022 122.5

F032 **A03-01**

EOB

C

B402 **EC_DAPHNIATOX_TAB**

F001 58

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 **A01-01**

F008 **E06-0034: Daphnia sp.**

F009 E07-04

F011 48
F012 E04-02
F013 E05-02
F021 131.9
F031 A03-01
F042 E01-03: Modeled
EOB

C

B403 EC_ALGAETOX_TAB
F001 58
F002 1
F003 15-02-2006
F004 MIKLESKA
F007 A01-01
F008 E08-0056
F009 E09-03
F010 2004
F011 E10-02
F012 72
F013 E04-02
F014 E05-02
F016 12.5
F028 67
F034 A03-03
F035 A03-03

EOR

F001 58
F002 2
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 E08-0063
F009 E09-04: Modeled
F011 E10-03: Modeled
F012 96
F013 E04-02
F014 E05-02
F028 82.8
F035 A03-01

EOB

C

B501 TO-ACUTE-ORAL-TAB
F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T01-03
F009 T02-24
F010 T03-02
F011 1991
F013 337
F015 T04-01
F016 A03-03
F019 T24-04
F022 T23-42
F023 202, 254, 320, and 402 mg/kg

EOR
F001 58
F002 2
F003 16-12-2005
F004 GRAHAMRC
EOB
C
B502 TO_ACUTE_INHAL_TAB
F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T05-05: ALC
F009 T02-24
F010 T06-03
F011 1983
F012 A02-04
F013 8.9
F015 T07-01
F016 4
F017 T08-01
F018 A03-01
F021 T24-02
F022 24
F024 T23-48: Cr1:CD
F025 1.8, 3.7, and 8.9 mg/L
EOB
C
B505 TO_SKIN_IRRITATION_TAB
F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T02-23
F009 T14-05
F010 1991
F012 T46-06
F013 A03-03
F018 T50-002
F019 4
F020 T55-001
EOB
C
F001 58
F002 2
F003 16-12-2005
F004 GRAHAMRC
EOB
C
B506 TO-EYE-IRRITATION-TAB
F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T02-23

F010 1980
F012 T46-06
F013 A03-01
F018 28.4
F019 T56-002: mg
F020 .33
F021 T08-02
F022 2
F024 T59-003
EOR
F001 58
F002 2
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T02-23

OECD 404

F010 1991
F013 A03-03
F018 .1
F019 T56-002: g
F022 3
F024 T59-003

EOB

C

B507 TO-SENSITIZATION-TAB

F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F009 T02-10
F010 T20-03
F011 1980
F013 T21-02
F014 A03-01
F017 30
F030 T52-003: Dimethyl phthalate

EOB

C

B509 TO-GENETIC-IN-VITRO-TAB

F001 58
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T30-14
F009 T31-10
F010 1991
F011 Salmonella typhmuriium strains TA98, TA100, TA1535, TA1537
F012 T32-03
F013 T33-02
F014 A03-03
F015 50-5000 ug/plate

EOB

F001 58

F002 2
F003 16-12-2005
F004 GRAHAMRC

EOB

C

B510 TO_GENETIC_IN_VIVO_TAB

F001 58

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 A01-01

F008 T34-07

F010 T23-48: ddY

F012 1993

F013 T24-02

F014 T25-10

F016 not available

F017 A03-02

F020 T33-02

EOB

C

B601 TEXT-TAB

F002 58

F010 1.1.1

F004 2

F005 AD

F006 Vazo 67 structure.bmp

F007 Vazo 67 structure.bmp

F020 45211

F021 Vazo 67 structure

F022 411654

F023 9:1:2006 12:56

F024 bmp

EOR

F002 58

F010 1.10

F004 1

F005 RM

F006 AMBN and its analogous compound, AIBN are solid free-radical initiators
* used industrially in polymerization reactions. Although the products have
* slightly different properties, they may, in most cases, be used
* interchangeably. There are no

F007 AMBN and its analogous compound, AIBN are solid free-radical initiators
* used industrially in polymerization reactions. Although the products have
* slightly different properties, they may, in most cases, be used
* interchangeably. There are no direct consumer uses of these products.
* Both compounds decompose when exposed to heat, releasing nitrogen gas and
* carbon-centered radicals. End-use applications include acrylics, resins,
* industrial polymers, and foams. The materials react rapidly and
* completely; thus, neither is recognizable in end-use products, and
* consumer exposure is unlikely. Transport of dry product in
* temperature-controlled containers is required for shipment of any amount
* greater than 100 grams. Exposure to either material would not occur
* during shipping, unless container integrity is compromised.
**

** During manufacturing uses, the most likely exposure is to skin, with some
* potential of airborne exposure during material transfer operations. The
* major manufacturers of AMBN practice Responsible Care. Specific
* manufacturing procedures and industrial hygiene programs in place at
* manufacturing sites limit the potential for employee exposure through use
* of engineering controls, environmental controls, and personal protective
* equipment. DuPont has set an Acceptable Exposure Limit (AEL) of 1 mg/mg3
* TWA for both AMBN and AIBN. DuPont also has a program to assess the
* ability of potential customers to safely handle the materials prior to
* commencing a commercial relationship. This assessment includes reviews
* and audits of PPE (personal protective equipment), safety equipment and
* procedures, structural integrity, and safety practices.

F020 51077

EOR

F002 58

F010 1.11

F004 1

F005 RM

F006 The studies listed below were selected to represent the best available
* study design and execution for these HPV toxicity endpoints. Other data
* of equal or lesser quality are not summarized, but are listed as related
* references in this docu

F007 The studies listed below were selected to represent the best available
* study design and execution for these HPV toxicity endpoints. Other data
* of equal or lesser quality are not summarized, but are listed as related
* references in this document.

F020 45213

EOR

F002 58

F010 1.8.1

F004 1

F005 RE

F006 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).

F007 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).

F020 41312

EOR

F002 58

F010 1.8.1

F004 1

F005 RM

F006 The 12-hour TWA value is 0.7 mg/m3

F007 The 12-hour TWA value is 0.7 mg/m3

F020 41311

EOR

F002 58

F010 2.1

F004 1

F005 ME

F006 The procedures used in this test were based on the recommendations of the
* following guideline: U.S. EPA Product Properties Test Guidelines OPPTS
* 830.7200.
**

** A preliminary test was performed to determine the approximate melting
* point of the

F007 The procedures used in this test were based on the recommendations of the
* following guideline: U.S. EPA Product Properties Test Guidelines OPPTS
* 830.7200.

**

** A preliminary test was performed to determine the approximate melting point of the test substance. A Mettler FP900 Thermosystem was used, and the preliminary test was performed in triplicate. Due to the potentially dangerous reaction of the test substance when subjected to heat, friction, or impact, and the fact that the consistency of the test substance was already that of a powder, the test substance was not ground using a mortar and pestle. A portion of the dried test substance was loaded into the bottom of 3 melting point tubes to a depth of 4-6 mm. The 3 melting point tubes were heated from 40°C (start temperature) to 50°C (end temperature) at a rate of +0.2°C per minute. (The MSDS for this test substance states that the compound should not be heated above 50°C due to violent decomposition with self ignition.)

**

** The definitive test was then performed. Triplicate melting point tubes containing 4-6 mm of test substance were heated from 47.5°C (start temperature) at a rate of +0.2°C per minute until the end temperature of 50°C was reached.

F020 41318

EOR

F002 58

F010 2.1

F004 1

F005 RE

F006 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 48128, Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co., Inc. (DuPont-15140), "Determination of Melting Point/Melting Range for 2,2'-Azobis-(Methylbutyronit

F007 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 48128, Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co., Inc. (DuPont-15140), "Determination of Melting Point/Melting Range for 2,2'-Azobis-(Methylbutyronitrile) CAS# 13472-08-7" (July 17).

F020 41322

EOR

F002 58

F010 2.1

F004 1

F005 RM

F006 Reliability: High because a scientifically defensible or guideline method was used.

F007 Reliability: High because a scientifically defensible or guideline method was used.

F020 43730

EOR

F002 58

F010 2.1

F004 1

F005 RM

F006 The MSDS for this test substance states that the compound should not be heated above 50°C due to violent decomposition with self ignition.

F007 The MSDS for this test substance states that the compound should not be heated above 50°C due to violent decomposition with self ignition.

F020 41316

EOR

F002 58

F010 2.1

F004 2

F005 RE
F006 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).
F020 41340
EOR
F002 58
F010 2.1
F004 2
F005 RM
F006 Additional Reference for Melting Point:
F007 Additional Reference for Melting Point:
F020 41328
EOR
F002 58
F010 2.2
F004 1
F005 RM
F006 Not Applicable
F007 Not Applicable
F020 44888
EOR
F002 58
F010 2.3
F004 1
F005 RE
F006 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).
F020 41333
EOR
F002 58
F010 2.3
F004 1
F005 RM
F006 bulk density = 25 lbs/ft³
F007 bulk density = 25 lbs/ft³
F020 41335
EOR
F002 58
F010 2.3
F004 1
F005 RM
F006 Reliability: Not assignable because limited study information was
* available.
F007 Reliability: Not assignable because limited study information was
* available.
F020 43731
EOR
F002 58
F010 2.3
F004 2
F005 RE
F006 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS000937).
F007 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS000937).
F020 41338
EOR

F002 58
F010 2.3
F004 2
F005 RM
F006 Additional Reference for Density:
F007 Additional Reference for Density:
F020 41336
EOR
F002 58
F010 2.4
F004 1
F005 ME
F006 The procedures used in the test were based on the recommendations of the
* following guideline: U.S. EPA Product Properties Test Guidelines OPPTS
* 830.7950.
**
**
* A dose level of 0.1% (w/w) was chosen to ensure that the sand prepared
* for use in th
F007 The procedures used in the test were based on the recommendations of the
* following guideline: U.S. EPA Product Properties Test Guidelines OPPTS
* 830.7950.
**
**
* A dose level of 0.1% (w/w) was chosen to ensure that the sand prepared
* for use in the preliminary and definitive tests would be coated with an
* excess of test substance. The sand and test substance solution were
* thoroughly mixed together by stirring. The coated sand was placed in a
* fume hood to allow the solvent to evaporate. The dry, treated sand was
* placed into a 2-L carboy and tumbled for a total of approximately 4
* hours.
**
**
* Prior to using the sand in the preliminary test, three 1 g aliquots of
* the sand were transferred to 20 mL scintillation vials. Each sand
* portion was extracted with 2x10 mL and 1x5 mL portions of acetonitrile.
* The extract volumes were pooled into graduated cylinders. The final
* volumes of the extracts were adjusted with acetonitrile. Each extract
* was diluted for analysis and was analyzed by HPLC. A single 1 g aliquot
* of sand not coated with the test substance was also extracted, diluted,
* and analyzed to serve as a control.
**
**
**
* Preliminary Test
**
**
* A preliminary test was performed, in which the dosed sand was distributed
* evenly into 3 vapor saturator columns labeled Test 1, 2, and 3. A
* control vapor saturator column was previously filled with a similar
* amount of sand that was not coated with test substance. The saturator
* columns containing the dosed sand and the saturator column containing the
* control sand were placed inside glass water jackets in an environmental
* chamber and were attached to a flow-controlled gas manifold. The
* temperature of the environmental chamber was maintained at 25±1°C.
* Nitrogen gas was passed through each saturator column overnight.
**
**
* On the following day, a primary ("A") and a secondary ("B") vapor trap
* were attached end-to-end to the systems on the effluent port of each of
* the saturator columns with the primary vapor trap before the secondary
* vapor trap. No test substance was added to these traps. Three spiked
* traps were prepared by applying test substance solution to each trap.
* One spiked trap was connected to the end of each dosed saturator column

* after the secondary trap. A single vapor trap, containing no test
* substance, was connected to the effluent port of the control saturator
* column. All connections used for the test system were of Teflon or
* parafilm.

**
** The flow rate of all systems was adjusted to 10 mL/min and measured with
* a digital flow meter. The temperature of the environmental chamber was
* measured at the same time the flow rates were measured.

**
** The preliminary test systems were terminated after approximately 168
* hours (7 days) (the saturator columns remained in the environmental
* chamber under nitrogen flow). The primary, secondary, and spiked
* cartridges were extracted and analyzed.

**
** The HPLC analysis of the primary trap extracts indicated that the
* concentration of the test substance was above the standard curve.
* Therefore, the eluates were diluted and then analyzed by HPLC. All
* samples were refrigerated when not in use.

**
** Definitive Test

**
** The definitive test duration was chosen based on the amount of test
* material collected in the preliminary phase.

**
** A primary ("A") and a secondary ("B") vapor trap were attached end-to-end
* to the systems on the effluent port of each of the saturator columns with
* the primary vapor trap before the secondary vapor trap. No test
* substance was added to these traps. Three spiked traps were prepared by
* applying test substance solution to each trap. One spiked trap was
* connected to the end of each dosed saturator column after the secondary
* trap. A single vapor trap, containing no test substance, was connected
* to the effluent port of the control saturator column. All connections
* used for the test system were of Teflon or parafilm.

**
** The flow rate of all systems was adjusted to 10 mL/min and measured with
* a digital flow meter. Flow rates were confirmed and adjusted several
* times throughout the study.

**
** The vapor traps from the 10 mL/min definitive test were terminated after
* approximately 24 hours (1 day). The "A" (primary) and "B" (secondary),
* spiked, and control vapor traps were extracted. Each extract was diluted
* and then analyzed by HPLC.

**
** The 8 mL/min definitive test was conducted exactly as described for the
* 10 mL/min definitive test, with the exception that the flow of nitrogen
* through the saturator columns was 8 mL/min.

**
** The backpressure at the outlet to the saturator column caused by the
* vapor traps at nitrogen flow rates of 10 and 8 mL/min was measured at the
* test temperature. Three vapor traps were prepared and connected as in
* the preliminary and definitive tests, with the exception that no test
* substance was spiked onto any of the traps. The saturator column
* containing the control sand used in the definitive test and maintained in
* the 25°C environmental chamber was used. The vapor traps were placed on
* the saturator column, the nitrogen flow was set to 8 mL/min, and the
* system was equilibrated overnight.

**

** The backpressure was measured by placing a U-tube manometer filled with
* mercury between the saturator column and the vapor traps and measuring
* the pressure difference shown on the manometer. Flow rates were measured
* immediately before placing the manometer between the saturator column and
* the vapor traps. After letting the system equilibrate for about 10
* minutes, a pressure reading was taken. This procedure was repeated twice
* for a total of 3 readings. The atmospheric pressure was measured using a
* NOVA mercury barometer. The backpressure at the outlet to the saturator
* column caused by the vapor traps at a nitrogen flow rate of 10 mL/min was
* determined as described for the 8 mL/min test. All solutions were
* refrigerated when not in use.

**

** Following the termination of the definitive study, a 1 g aliquot of sand
* from each saturator column was extracted and analyzed for stability
* confirmation.

**

** The vapor pressure was determined using the equations below:

**

** Vapor Density $d = m/G \times t$

**

** where:

** d = vapor density (g/mL)

** m = mass of trapped test material (g)

** G = nitrogen flow rate (mL/min)

** t = test duration (min)

**

**

** Vapor Pressure $P =$

**

** $d \times [V_m \times (t = 273.15) \times P_B \times \frac{P_B}{M} \times 273.15 \times P_C]$

**

** where:

** P = vapor pressure (Pa)

** d = vapor density (g/m-L)

** M = molecular weight of the test substance (g/mol)

** V_m = molar volume of ideal gas (22.4303 mL/mol)

** t = temperature at saturator outlet (°C)

** P_B = pressure of nitrogen at saturator outlet (Pa)

** (atmospheric pressure + backpressure, Pa)

** P_C = pressure of nitrogen at outlet of vapor traps

** (atmospheric pressure)

F020 41355

EOR

F002 58

F010 2.4

F004 1

F005 RE

F006 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 41829,

* Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co.,

* Inc. (DuPont-15141), "Vapor Pressure Determination (Gas Saturation

* Method) for 2,2'-Azobis-(Methyl

F007 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 41829,

* Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co.,

* Inc. (DuPont-15141), "Vapor Pressure Determination (Gas Saturation

* Method) for 2,2'-Azobis-(Methylbutyronitrile) CAS# 13472-08-7" (May 20).

F020 41362

EOR

F002 58
F010 2.4
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43732
EOR
F002 58
F010 2.4
F004 1
F005 RS
F006 0.354 Pa (0.00354 hPa) at a flow rate of 10 mL/min
** 0.408 Pa (0.00408 hPa) at a flow rate of 8 mL/min
F007 0.354 Pa (0.00354 hPa) at a flow rate of 10 mL/min
** 0.408 Pa (0.00408 hPa) at a flow rate of 8 mL/min
F020 41359
EOR
F002 58
F010 2.4
F004 2
F005 RE
F006 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).
F020 41366
EOR
F002 58
F010 2.4
F004 2
F005 RM
F006 Additional Reference for Vapor Pressure:
F007 Additional Reference for Vapor Pressure:
F020 41364
EOR
F002 58
F010 2.5
F004 1
F005 ME
F006 The procedures used in this test were based on the recommendations of the
* following guideline: U.S. EPA Product Properties Test Guidelines OPPTS
* 830.7550.
**
** Preliminary Test
**
** A volume of test substance solution in octanol saturated with wat
F007 The procedures used in this test were based on the recommendations of the
* following guideline: U.S. EPA Product Properties Test Guidelines OPPTS
* 830.7550.
**
** Preliminary Test
**
** A volume of test substance solution in octanol saturated with water was
* added to each of 4 plastic centrifuge tubes. Reagent water saturated with
* octanol was added to each centrifuge tube. The tubes were capped, and
* the caps secured with electrical tape. The samples were placed on a

* shaker in a 20°C environmental chamber. Shaking was performed in the
* dark. After 2 and 24 hours, 2 samples were removed from the shaker, and
* were centrifuged at 20°C for 30 minutes. The octanol and aqueous phases
* were then separated.

**
** The octanol phases were diluted using acetonitrile. The diluted samples
* were further diluted and analyzed by HPLC. The aqueous phases were also
* diluted for analysis.

**
** Octanol quality control samples were prepared in triplicate, diluted, and
* analyzed by HPLC. Aqueous quality control samples were prepared in
* duplicate and diluted for analysis.

**
** Definitive Test

**
** The definitive test was performed at 3 volume ratios of octanol to water.
* The ratios were 1:1 and 1:2 (v:v), or twice, the same, and ½ the
* volume ratio used during the preliminary test. Each volume ratio was
* performed in duplicate.

**
** Volumes of the test substance solution in octanol saturated with reagent
* water were added to duplicate plastic centrifuge tubes. Reagent water
* saturated with octanol was added to each centrifuge tube. The tubes were
* capped, and the caps secured with electrical tape. The samples were
* placed on a shaker in a 20°C environmental chamber. Shaking was
* performed in the dark. After 24 hours, the samples were removed from the
* shaker, and centrifuged at 20°C for 30 minutes. The octanol and aqueous
* phases were then separated. The octanol and aqueous phases were diluted
* and analyzed by HPLC.

**
** Octanol quality control samples were prepared in duplicate, diluted, and
* final dilutions were analyzed by HPLC. Aqueous quality control samples
* were prepared in duplicate and diluted for analysis.

**
** The pH of each definitive test aqueous phase sample was measured.

**
** The octanol/water partition coefficient (Kow) was calculated from the
* following equation:

**
**
$$Kow = \frac{Co}{Cw}$$

**
** where:

** Co = concentration of test substance at equilibrium in octanol phase

** Cw = concentration of test substance at equilibrium in aqueous phase

F020 41372

EOR

F002 58

F010 2.5

F004 1

F005 RE

F006 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 48125,

* Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co.,

* Inc. (DuPont-15138), "Determination of n Octanol/Water Partition

* Coefficient (Shake Flask Method) f

F007 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 48125,

* Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co.,

* Inc. (DuPont-15138), "Determination of n Octanol/Water Partition

* Coefficient (Shake Flask Method) for 2,2'-Azobis-(Methylbutyronitrile)
 * CAS# 13472-08-7" (May 20).
 F020 41376
 EOR
 F002 58
 F010 2.5
 F004 1
 F005 RM
 F006 Reliability: High because a scientifically defensible or guideline method
 * was used.
 F007 Reliability: High because a scientifically defensible or guideline method
 * was used.
 F020 43733
 EOR
 F002 58
 F010 2.5
 F004 2
 F005 ME
 F006 Modeled. The KOWWIN computer program, version 1.66 from Syracuse Research
 * Corporation, calculates the Log octanol/water partition coefficient (log
 * Kow) of organic chemicals using an atom/fragment contribution method. The
 * methodology is desc
 F007 Modeled. The KOWWIN computer program, version 1.66 from Syracuse Research
 * Corporation, calculates the Log octanol/water partition coefficient (log
 * Kow) of organic chemicals using an atom/fragment contribution method. The
 * methodology is described in Meylan and Howard, 1995.
 F020 41381
 EOR
 F002 58
 F010 2.5
 F004 2
 F005 RE
 F006 Meylan, W. M. and P. H. Howard (1995). J. Pharm. Sci., 84:83-92.
 F007 Meylan, W. M. and P. H. Howard (1995). J. Pharm. Sci., 84:83-92.
 F020 41383
 EOR
 F002 58
 F010 2.5
 F004 2
 F005 RM
 F006 Reliability: Estimated value based on accepted model.
 F007 Reliability: Estimated value based on accepted model.
 F020 43734
 EOR
 F002 58
 F010 2.6.1
 F004 1
 F005 ME
 F006 The procedures used in this test were based on the recommendations of the
 * following guideline: U.S. EPA Product Properties Test Guidelines OPPTS
 * 830.7840.
 **
 ** Preliminary Test
 **
 ** Approximately 35 mg of the test substance was weighed into two pl
 F007 The procedures used in this test were based on the recommendations of the
 * following guideline: U.S. EPA Product Properties Test Guidelines OPPTS

* 830.7840.

**

** Preliminary Test

**

** Approximately 35 mg of the test substance was weighed into two plastic
* centrifuge tubes. Twenty mL of reagent water was added to each tube.
* The 2 samples were placed on a shaker in a 20°C environmental chamber.
* After approximately 2 hours, the samples were removed from the shaker and
* centrifuged for 30 minutes at 20°C to settle any undissolved test
* substance that remained in the tubes. The supernatant of each sample was
* diluted for analysis. A dilution of a separate test substance stock
* solution was analyzed concurrently with the samples.

**

** Quality control samples were prepared in duplicate. The samples were
* placed on a shaker in the 20°C environmental chamber for 2 hours, and
* were diluted for analysis. All samples were refrigerated when not in use.

**

** Definitive Test

**

** Three test samples (replicates 1, 2, and 3) were prepared by adding test
* substance to plastic centrifuge tubes. Reagent water was added to each
* tube. The samples were capped, and the caps secured with electrical
* tape. They were placed on a platform shaker in a 20°C environmental
* chamber.

**

** After approximately 24, 48, and 72 hours, the replicate samples 1, 2, and
* 3, respectively, were removed from the shaker in the 20°C environmental
* chamber. The samples were centrifuged for 30 minutes at 20°C. The
* supernatant was diluted for analysis in duplicate. Quality control
* samples were prepared in triplicate. The samples were placed on a shaker
* in the 20°C environmental chamber. One sample was removed at the 24-,
* 48-, and 72-hour sample points. The samples were diluted for analysis.
* The pH of the sample supernatants was measured after centrifugation. All
* solutions were refrigerated when not in use.

F020 41384

EOR

F002 58

F010 2.6.1

F004 1

F005 RE

F006 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 48126,
* Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co.,
* Inc. (DuPont-151391, "Determination of Water Solubility by the Shake
* Flask Method for 2,2'-Azobis-(

F007 ABC Laboratories, Inc. (2004). Unpublished Data, ABC Study No. 48126,
* Co-sponsored by: Akzo Nobel Chemicals, Inc. and E. I. DuPont and Co.,
* Inc. (DuPont-151391, "Determination of Water Solubility by the Shake
* Flask Method for 2,2'-Azobis-(Methylbutyronitrile) CAS# 13472-08-7" (May
* 20).

F020 41387

EOR

F002 58

F010 2.6.1

F004 1

F005 RM

F006 Reliability: High because a scientifically defensible or guideline method
* was used.

F007 Reliability: High because a scientifically defensible or guideline method
* was used.

F020 43735
EOR
F002 58
F010 2.6.1
F004 1
F005 RS
F006 392 +/- 5 $\mu\text{g/mL}$.
F007 392 +/- 5 $\mu\text{g/mL}$.
F020 41385
EOR
F002 58
F010 2.6.1
F004 2
F005 ME
F006 WsKow v1.4 in EPIWIN v3.05 (SRC Database).
**
** WsKow estimates the water solubility (Wsol) of an organic compound using
* the compound's log octanol-water partition coefficient (log Kow). This
* estimation methodology is described in Meylan and
F007 WsKow v1.4 in EPIWIN v3.05 (SRC Database).
**
** WsKow estimates the water solubility (Wsol) of an organic compound using
* the compound's log octanol-water partition coefficient (log Kow). This
* estimation methodology is described in Meylan and Howard, 1994a, 1994b
* and in Meylan et al., 1996.

F020 41390
EOR
F002 58
F010 2.6.1
F004 2
F005 RE
F006 Meylan, W. M. and P. H. Howard (1994a). Upgrade of PCGEMS Water
* Solubility Estimation Method (May 1994 Draft); prepared for Robert S.
* Boethling, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington,
F007 Meylan, W. M. and P. H. Howard (1994a). Upgrade of PCGEMS Water
* Solubility Estimation Method (May 1994 Draft); prepared for Robert S.
* Boethling, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington, DC; prepared by Syracuse Research
* Corporation, Environmental Science Center, Syracuse, NY 13210.

F020 41395
EOR
F002 58
F010 2.6.1
F004 2
F005 RE
F006 Meylan, W. M. and P. H. Howard (1994b). Validation of Water Solubility
* Estimation Methods Using Log Kow for Application in PCGEMS & EPI (Sept
* 1994, Final Report); prepared for Robert S. Boethling, U.S.
* Environmental Protection Agency, Of
F007 Meylan, W. M. and P. H. Howard (1994b). Validation of Water Solubility
* Estimation Methods Using Log Kow for Application in PCGEMS & EPI (Sept
* 1994, Final Report); prepared for Robert S. Boethling, U.S.
* Environmental Protection Agency, Office of Pollution Prevention and
* Toxics, Washington, DC; prepared by Syracuse Research Corporation,

* Environmental Science Center, Syracuse, NY 13210.

F020 41396

EOR

F002 58

F010 2.6.1

F004 2

F005 RE

F006 Meylan, W. M. et al. (1996). Environ. Toxicol. Chem., 15:100-106.

F007 Meylan, W. M. et al. (1996). Environ. Toxicol. Chem., 15:100-106.

F020 41394

EOR

F002 58

F010 2.6.1

F004 2

F005 RM

F006 Reliability: Estimated value based on accepted model.

F007 Reliability: Estimated value based on accepted model.

F020 43736

EOR

F002 58

F010 2.6.1

F004 3

F005 RE

F006 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).

F007 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).

F020 41399

EOR

F002 58

F010 2.6.1

F004 3

F005 RE

F006 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses, Storage, and Handling (also cited in TSCA Fiche OTS0000937).

*
F007 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses, Storage, and Handling (also cited in TSCA Fiche OTS0000937).

*
F020 41400

EOR

F002 58

F010 2.6.1

F004 3

F005 RM

F006 Additional References for Water Solubility:

F007 Additional References for Water Solubility:

F020 41398

EOR

F002 58

F010 2.7

F004 1

F005 RM

F006 Not Applicable

F007 Not Applicable

F020 44898

EOR

F002 58

F010 2.9

F004 1

F005 RE

F006 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. DU000905 (March 28).

F020 41405

EOR

F002 58

F010 2.9

F004 1

F005 RM

F006 Reliability: Not assignable because limited study information was
* available.

F007 Reliability: Not assignable because limited study information was
* available.

F020 43737

EOR

F002 58

F010 2.9

F004 1

F005 RS

F006 Flammable limits in air, % by volume: LEL = 0.034 g/L, UEL = Not
* determined

**

** Autoignition Temperature = 185°C

F007 Flammable limits in air, % by volume: LEL = 0.034 g/L, UEL = Not
* determined

**

** Autoignition Temperature = 185°C

F020 41403

EOR

F002 58

F010 2.9

F004 2

F005 RE

F006 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS0000937).

F007 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS0000937).

F020 41408

EOR

F002 58

F010 2.9

F004 2

F005 RM

F006 Additional Reference for Flammability:

F007 Additional Reference for Flammability:

F020 41406

EOR

F002 58

F010 3.1.1

F004 1

F005 ME

F006 Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research
* Corporation. The AOP Program, Version 1.90 from Syracuse Research
* Corporation, estimates the Atmospheric Oxidation Potential. The AOP
* program estimates the rate constant for

F007 Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research
* Corporation. The AOP Program, Version 1.90 from Syracuse Research
* Corporation, estimates the Atmospheric Oxidation Potential. The AOP

* program estimates the rate constant for the atmospheric, gas-phase
* reaction between photochemically produced hydroxyl radicals and organic
* chemicals. The methodology used by the Atmospheric Oxidation Program is
* based upon the structure-activity relationship (SAR) methods developed by
* Dr. Roger Atkinson and coworkers (Atkinson, 1984 and Atkinson et al.,
* 1987; 1995; 1996). The AOP Program is described in Meylan and Howard,
* 1993.

F020 41410

EOR

F002 58

F010 3.1.1

F004 1

F005 RE

F006 Atkinson, R. et al. (1984). Chem. Rev., 84:437-470.

F007 Atkinson, R. et al. (1984). Chem. Rev., 84:437-470.

F020 41419

EOR

F002 58

F010 3.1.1

F004 1

F005 RE

F006 Atkinson, R. et al. (1987). Intern. J. Chem. Kinet., 19:799-828.

F007 Atkinson, R. et al. (1987). Intern. J. Chem. Kinet., 19:799-828.

F020 41415

EOR

F002 58

F010 3.1.1

F004 1

F005 RE

F006 Atkinson, R. et al. (1995). Atmos. Environ., 29:1685-1695.

F007 Atkinson, R. et al. (1995). Atmos. Environ., 29:1685-1695.

F020 41416

EOR

F002 58

F010 3.1.1

F004 1

F005 RE

F006 Atkinson, R. et al. (1996). Environ. Sci. Technol., 30:329 -334.

F007 Atkinson, R. et al. (1996). Environ. Sci. Technol., 30:329 -334.

F020 41417

EOR

F002 58

F010 3.1.1

F004 1

F005 RE

F006 Meylan, W. M. and P. H. Howard (1993). Chemosphere, 26:2293-2299.

F007 Meylan, W. M. and P. H. Howard (1993). Chemosphere, 26:2293-2299.

F020 41420

EOR

F002 58

F010 3.1.1

F004 1

F005 RM

F006 Reliability: Estimated value based on accepted model.

F007 Reliability: Estimated value based on accepted model.

F020 43738

EOR

F002 58
F010 3.1.1
 F004 1
 F005 RS
F006 Direct Photolysis: Not Applicable
 **
 ** Indirect Photolysis: OH Half-life = 3.605 days (12-hour day;
 * concentration of OH radicals = 1.5×10^6 OH/cm³).
 **
 ** Breakdown Products: No Data
F007 Direct Photolysis: Not Applicable
 **
 ** Indirect Photolysis: OH Half-life = 3.605 days (12-hour day;
 * concentration of OH radicals = 1.5×10^6 OH/cm³).
 **
 ** Breakdown Products: No Data
F020 41421
 EOR
 F002 58
F010 3.1.2
 F004 1
 F005 ME
F006 The Henry's Law constant for butanenitrile, 2,2'-azobis(2-methyl- (Vazo
 * 67) is estimated to be 1.97×10^{-6} atm m³/mole (Henry v3.10 Program, Bond
 * SAR Method in SRC Epiwin v3.05) from its estimated vapor pressure
 * (6.7×10^{-4} mm Hg; MPBPWIN v1
F007 The Henry's Law constant for butanenitrile, 2,2'-azobis(2-methyl- (Vazo
 * 67) is estimated to be 1.97×10^{-6} atm m³/mole (Henry v3.10 Program, Bond
 * SAR Method in SRC Epiwin v3.05) from its estimated vapor pressure
 * (6.7×10^{-4} mm Hg; MPBPWIN v1.40) and estimated water solubility (4.905
 * mg/L; WSKOW v1.40). The estimated volatilization half-life from a model
 * river (1 m deep, flowing 1 m/sec, wind velocity of 5 m/sec) is based on
 * the Henry's Law constant.
F020 41423
 EOR
 F002 58
F010 3.1.2
 F004 1
 F005 RE
F006 Syracuse Research Corporation EPIWIN Version 3.11.
F007 Syracuse Research Corporation EPIWIN Version 3.11.
F020 41426
 EOR
 F002 58
F010 3.1.2
F004 1
 F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43739
 EOR
 F002 58
F010 3.1.2
 F004 1
 F005 RS
F006 The estimated half-life for a model river is 422.9 years. Based on the
 * Henry's Law constant, the estimated volatilization half-life from a model

* river (1 m deep, flowing 1 m/sec, wind velocity of 5 m/sec) is
 * approximately 412 hours. The es

F007 The estimated half-life for a model river is 422.9 years. Based on the
 * Henry's Law constant, the estimated volatilization half-life from a model
 * river (1 m deep, flowing 1 m/sec, wind velocity of 5 m/sec) is
 * approximately 412 hours. The estimated volatilization half-life from a
 * model lake (1 m deep, flowing 0.05 m/sec, wind velocity of 0.5 m/sec) is
 * approximately 4616 hours (EPIWIN v. 3.11).

F020 41424
 EOR
 F002 58
F010 3.3.1
 F004 1
 F005 ME
 F006 Calculated according to Mackay, Level III, Syracuse Research Corporation
 * Epiwin Version 3.05. Emissions (1000 kg/hr) to air, water, and soil
 * compartments using standard EPA Model defaults.
 **
 ** Data Used:
 **
 ** Molecular Weight: 192.27
 ** Henry's La

F007 Calculated according to Mackay, Level III, Syracuse Research Corporation
 * Epiwin Version 3.05. Emissions (1000 kg/hr) to air, water, and soil
 * compartments using standard EPA Model defaults.
 **
 ** Data Used:
 **
 ** Molecular Weight: 192.27
 ** Henry's Law Constant: 1.97x (calculated from
 * experimentally determined water solubility and vapor pressure)
 ** Vapor Pressure: 0.00306 mm Hg (converted from experimentally determined
 * value of 0.408 Pa)
 ** Log Kow : 2.07 (experimentally determined)
 ** Soil Koc : 48.2 (calc. by Level III model)

F020 41427
 EOR
 F002 58
F010 3.3.1
 F004 1
 F005 RE
 F006 Mackay, D. (1991). Multimedia Environmental Models; The Fugacity
 * Approach, pp. 67-183, Lewis Publishers, CRC Press.

F007 Mackay, D. (1991). Multimedia Environmental Models; The Fugacity
 * Approach, pp. 67-183, Lewis Publishers, CRC Press.

F020 41431
 EOR
 F002 58
F010 3.3.1
 F004 1
 F005 RE
F006 Mackay, D. et al. (1996a). Environ. Toxicol. Chem., 15(9):1618-1626.
F007 Mackay, D. et al. (1996a). Environ. Toxicol. Chem., 15(9):1618-1626.
 F020 41432
 EOR
 F002 58
F010 3.3.1

F004 1
F005 RE
F006 Mackay, D. et al. (1996b). Environ. Toxicol. Chem., 15(9):1627-1637.
F007 Mackay, D. et al. (1996b). Environ. Toxicol. Chem., 15(9):1627-1637.
F020 41433
EOR
F002 58
F010 3.3.1
F004 1
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43740
EOR
F002 58
F010 3.3.1
F004 1
F005 RM
F006 Syracuse Research Corporation EPIWIN v3.05 contains a Level III fugacity
* model. The methodology and programming approach was developed by Dr.
* Donald Mackay and coworkers which is detailed in: Mackay, 1991 and Mackay
* et al., 1996a, 1996b.
F007 Syracuse Research Corporation EPIWIN v3.05 contains a Level III fugacity
* model. The methodology and programming approach was developed by Dr.
* Donald Mackay and coworkers which is detailed in: Mackay, 1991 and Mackay
* et al., 1996a, 1996b.
F020 41430
EOR
F002 58
F010 3.3.1
F004 1
F005 RS
F006 Distributions:
**
** Released 100% to air: Air = 22.3%; water = 16.2%; soil = 61.4%; and
* sediment = 0.07%
**
** Released 100% to water: Air = 0.12%; water = 99.1%; soil = 0.32%; and
* sediment = 0.43%
**
** Released 100% to soil: Air = 0.214%; water = 10.3%
F007 Distributions:
**
** Released 100% to air: Air = 22.3%; water = 16.2%; soil = 61.4%; and
* sediment = 0.07%
**
** Released 100% to water: Air = 0.12%; water = 99.1%; soil = 0.32%; and
* sediment = 0.43%
**
** Released 100% to soil: Air = 0.214%; water = 10.3%; soil = 89.4%; and
* sediment = 0.04%
F020 41428
EOR
F002 58
F010 3.7
F004 1
F005 ME

F006 Calculated by BCFWIN Computer Program, Vers. 2.15, Syracuse Research Corporation.
 **
 ** The estimation methodology used by BCFWIN is described in the following document prepared for the U. S. Environmental Protection Agency (OPPT) :
 * "Improved Me
 *
 F007 Calculated by BCFWIN Computer Program, Vers. 2.15, Syracuse Research Corporation.
 **
 ** The estimation methodology used by BCFWIN is described in the following document prepared for the U. S. Environmental Protection Agency (OPPT):
 * "Improved Method for Estimating Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient," SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S. Boethling, EPA-OPPT, Washington, DC; Contract No. 68 D5-0012; prepared by William M. Meylan, Philip H. Howard, Dallas Aronson, Heather Printup, and Sybil Gouchie; Syracuse Research Corp., Environmental Science Center, 6225 Running Ridge Road, North Syracuse, NY 13212.
 *
 F020 43348
 EOR
 F002 58
 F010 3.7
 F004 1
 F005 RE
 F006 Meylan, W. M. et al. (1997). "Improved Method for Estimating Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient," SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S. Boethling, EPA-OPPT, Washington, DC; Con
 *
 F007 Meylan, W. M. et al. (1997). "Improved Method for Estimating Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient," SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S. Boethling, EPA-OPPT, Washington, DC; Contract No. 68 D5-0012; prepared by William M. Meylan, Philip H. Howard, Dallas Aronson, Heather Printup, and Sybil Gouchie; Syracuse Research Corp., Environmental Science Center, 6225 Running Ridge Road, North Syracuse, NY 13212.
 *
 F020 43350
 EOR
 F002 58
 F010 3.7
 F004 1
 F005 RM
 F006 Reliability: Estimated value based on accepted model.
 F007 Reliability: Estimated value based on accepted model.
 F020 43741
 EOR
 F002 58
 F010 3.7
 F004 1
 F005 RS
 F006 BCF = 7.83 (log BCF = 0.894).
 F007 BCF = 7.83 (log BCF = 0.894).
 F020 43351
 EOR
 F002 58
 F010 4.1
 F004 1
 F005 ME

F006 Modeled as described in the User's Guide for the ECOSAR Class Program,
* Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas,
* U.S. Environmental Protection Agency, Office of Pollution Prevention and
* Toxics, Washington, DC,
F007 Modeled as described in the User's Guide for the ECOSAR Class Program,
* Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas,
* U.S. Environmental Protection Agency, Office of Pollution Prevention and
* Toxics, Washington, DC, prepared by Syracuse Research Corp.,
* Environmental Science Center, Syracuse, NY 13210.
F020 43352
EOR
F002 58
F010 4.1
F004 1
F005 RE
F006 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washi
F007 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington, DC, prepared by Syracuse Research
* Corp., Environmental Science Center, Syracuse, NY 13210.
F020 43353
EOR
F002 58
F010 4.1
F004 1
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43742
EOR
F002 58
F010 4.1
F004 1
F005 RS
F006 Estimated 96-hour LC50 in fish = 122.5 mg/L; based on a log Kow = 2.07.
F007 Estimated 96-hour LC50 in fish = 122.5 mg/L; based on a log Kow = 2.07.
F020 43355
EOR
F002 58
F010 4.2
F004 1
F005 ME
F006 Modeled as described in the User's Guide for the ECOSAR Class Program,
* Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas,
* U.S. Environmental Protection Agency, Office of Pollution Prevention and
* Toxics, Washington, DC,
F007 Modeled as described in the User's Guide for the ECOSAR Class Program,
* Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas,
* U.S. Environmental Protection Agency, Office of Pollution Prevention and
* Toxics, Washington, DC, prepared by Syracuse Research Corp.,
* Environmental Science Center, Syracuse, NY 13210.
F020 43356
EOR

F002 58
F010 4.2
F004 1
F005 RE
F006 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washi
F007 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington, DC, prepared by Syracuse Research
* Corp., Environmental Science Center, Syracuse, NY 13210.
F020 43358
EOR
F002 58
F010 4.2
F004 1
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43743
EOR
F002 58
F010 4.2
F004 1
F005 RS
F006 Estimated 48-hour EC50 for Daphnia sp. = 131.9 mg/L; based on a log Kow =
* 2.07.
F007 Estimated 48-hour EC50 for Daphnia sp. = 131.9 mg/L; based on a log Kow =
* 2.07.
F020 43359
EOR
F002 58
F010 4.3
F004 1
F005 ME
F006 OECD Guideline 201 (1984) and EEC Directive 92/69/EEC Annex 5, Part C.3.
**
** The EC50 value for growth rate was calculated based on 5 measured
* concentrations (6.20, 12.3, 24.5, 49.3, and 99.5 mg/L). DMF (100 mg/L)
* was used as a co-solvent.
F007 OECD Guideline 201 (1984) and EEC Directive 92/69/EEC Annex 5, Part C.3.
**
** The EC50 value for growth rate was calculated based on 5 measured
* concentrations (6.20, 12.3, 24.5, 49.3, and 99.5 mg/L). DMF (100 mg/L)
* was used as a co-solvent.
F020 43360
EOR
F002 58
F010 4.3
F004 1
F005 RE
F006 DuPont Co. (2004). Unpublished Data, Co-sponsored by: Akzo Nobel
* Chemicals, Inc. and E. I. DuPont and Co., Inc., Haskell Laboratory Report
* DuPont-11644, "Influence on Growth and Growth Rate of the Green Alga
* Selenastrum capricornutum with

F007 DuPont Co. (2004). Unpublished Data, Co-sponsored by: Akzo Nobel
* Chemicals, Inc. and E. I. DuPont and Co., Inc., Haskell Laboratory Report
* DuPont-11644, "Influence on Growth and Growth Rate of the Green Alga
* Selenastrum capricornutum with 2,2'-Azobis(2-methylbutyronitrile) (AMBN)"
* (February 12).

F020 43364

EOR

F002 58

F010 4.3

F004 1

F005 RM

F006 Both cell count, growth, and area under the curve were determined for
* Selenastrum capricornutum in this study.

F007 Both cell count, growth, and area under the curve were determined for
* Selenastrum capricornutum in this study.

F020 43362

EOR

F002 58

F010 4.3

F004 1

F005 RM

F006 Reliability: High because a scientifically defensible or guideline method
* was used.

F007 Reliability: High because a scientifically defensible or guideline method
* was used.

F020 43744

EOR

F002 58

F010 4.3

F004 1

F005 RS

F006 The reductions in healthy cell count, area under the growth curve, and
* growth for Selenastrum capricornutum at 72 hours (3 days) indicated a
* dose-dependent response for increasing concentrations of the test
* substance. The most sensitive pa

F007 The reductions in healthy cell count, area under the growth curve, and
* growth for Selenastrum capricornutum at 72 hours (3 days) indicated a
* dose-dependent response for increasing concentrations of the test
* substance. The most sensitive parameter was area under the growth curve
* with an EC50 of 31.3 mg/L and a NOEC of 12.5 mg/L, based on mean measured
* test concentrations. The ability to recover was assessed at measured
* concentrations of 49.3 and 99.5 mg/L. The test substance was determined
* to be algistatic at measured concentrations less than or equal to 99.5
* mg/L.

**

** Results:

**

** Area Under the Growth Curve EC50 = 31.3 mg/L (95% confidence limits,
* 23.6-39.1 mg/L); NOEC = 12.5 mg/L

**

** Growth Rate EC50 = 67.0 mg/L (95% confidence limits, 60.5-74.1 mg/L);
* NOEC = 12.5 mg/L

**

** Healthy Cell Count EC50 = 38.1 mg/L (95% confidence limits, 32.6-44.6
* mg/L); NOEC = 12.5 mg/L

F020 43363

EOR

F002 58
F010 4.3
F004 2
F005 ME
F006 Modeled as described in the User's Guide for the ECOSAR Class Program,
* Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas,
* U.S. Environmental Protection Agency, Office of Pollution Prevention and
* Toxics, Washington, DC,
F007 Modeled as described in the User's Guide for the ECOSAR Class Program,
* Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and Gordon Cas,
* U.S. Environmental Protection Agency, Office of Pollution Prevention and
* Toxics, Washington, DC, prepared by Syracuse Research Corp.,
* Environmental Science Center, Syracuse, NY 13210.
F020 43365
EOR
F002 58
F010 4.3
F004 2
F005 RE
F006 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washi
F007 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington, DC, prepared by Syracuse Research
* Corp., Environmental Science Center, Syracuse, NY 13210.
F020 43368
EOR
F002 58
F010 4.3
F004 2
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43745
EOR
F002 58
F010 4.3
F004 2
F005 RS
F006 Estimated 96-hour EC50 for green algae = 82.8 mg/L; based on a log Kow =
* 2.07.
F007 Estimated 96-hour EC50 for green algae = 82.8 mg/L; based on a log Kow =
* 2.07.
F020 43367
EOR
F002 58
F010 5.1.1
F004 1
F005 RE
F006 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox
* AMBN: Acute Oral Toxicity Study In The Rat" (8/5/91).
F007 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox
* AMBN: Acute Oral Toxicity Study In The Rat" (8/5/91).
F020 43374

EOR

F002 58

F010 5.1.1

F004 1

F005 RM

F006 Reliability: High because a scientifically defensible and guideline
* method were used.

F007 Reliability: High because a scientifically defensible and guideline
* method were used.

F020 43746

EOR

F002 58

F010 5.1.1

F004 1

F005 RS

F006 The incidence of mortality was 0, 0, 50, and 80% at 202, 254, 320, and
* 402 mg/kg. All mortality occurred by day 2. Clinical signs of toxicity,
* which were seen in surviving and dead animals at all dose levels,
* included lethargy, staggered

F007 The incidence of mortality was 0, 0, 50, and 80% at 202, 254, 320, and
* 402 mg/kg. All mortality occurred by day 2. Clinical signs of toxicity,
* which were seen in surviving and dead animals at all dose levels,
* included lethargy, staggered gait, muscle tremor, piloerection,
* salivation, and hunched posture. The surviving animals had no clinical
* signs of toxicity by day 6. The gross necropsy of dead animals showed
* abnormal gastrointestinal contents and a single observation of dark areas
* on the glandular mucosa of the stomach. There were no significant
* changes observed in the gross necropsy of surviving animals.

F020 43372

EOR

F002 58

F010 5.1.1

F004 1

F005 TS

F006 Perkadox AMBN, purity 98.5%.

F007 Perkadox AMBN, purity 98.5%.

F020 43373

EOR

F002 58

F010 5.1.1

F004 2

F005 RE

F006 DuPont Co. (1978). Unpublished Data, Haskell Laboratory Report No.
* 577-78.

F007 DuPont Co. (1978). Unpublished Data, Haskell Laboratory Report No.
* 577-78.

F020 43376

EOR

F002 58

F010 5.1.1

F004 2

F005 RM

F006 Data from this additional source supports the study results summarized
* above. This study was not chosen for detailed summarization because the
* data were not substantially additive to the database.

F007 Data from this additional source supports the study results summarized
* above. This study was not chosen for detailed summarization because the

* data were not substantially additive to the database.

F020 43375
EOR
F002 58
F010 5.1.2
F004 1
F005 ME
F006 Groups of 6 rats (7-8 weeks old) were exposed nose-only for single,
* 4-hour periods to dust atmospheres of the test substance in air at
* concentrations of 1.8, 3.7, and 8.9 mg/L (the highest concentration that
* could be generated). Rats were
F007 Groups of 6 rats (7-8 weeks old) were exposed nose-only for single,
* 4-hour periods to dust atmospheres of the test substance in air at
* concentrations of 1.8, 3.7, and 8.9 mg/L (the highest concentration that
* could be generated). Rats were weighed and observed daily for 14 days
* post exposure, weekends included when deemed necessary.
**
** Dust atmospheres **were** generated and calibrated volumes of test atmosphere
* were drawn through pre-weighed glass fiber filters. Atmospheric
* concentration was determined from filter weight gain. Percent and mass
* median diameter of respirable particulate were determined during each
* exposure. Chamber temperature was monitored.

F020 43377
EOR
F002 58
F010 5.1.2
F004 1
F005 RE
F006 DuPont Co. (1983). Unpublished Data, Haskell Laboratory Report No.
* 368-83.
F007 DuPont Co. (1983). Unpublished Data, Haskell Laboratory Report No.
* 368-83.

F020 43380
EOR
F002 58
F010 5.1.2
F004 1
F005 RM
F006 Reliability: Medium because a suboptimal study design was used. Only a
* small percentage of particles in the exposure atmospheres were of
* respirable size.
F007 Reliability: Medium because a suboptimal study design was used. Only a
* small percentage of particles in the exposure atmospheres were of
* respirable size.

F020 43747
EOR
F002 58
F010 5.1.2
F004 1
F005 RS
F006 No mortality was observed at any exposure level tested. The % respirable
* particulates <10 um was 11, 25 or 31, and 24 at 1.8, 3.7, and 8.9 mg/L,
* respectively. The % respirable particulates <5 um was 2.0, 8.2 or 10,
* and 8.2 at 1.8, 3.7, an
F007 No mortality was observed at any exposure level tested. The % respirable
* particulates <10 um was 11, 25 or 31, and 24 at 1.8, 3.7, and 8.9 mg/L,
* respectively. The % respirable particulates <5 um was 2.0, 8.2 or 10,

* and 8.2 at 1.8, 3.7, and 8.9 mg/L, respectively. The mass median
* diameter of respirable particulate (um), calculated for particles less
* than 10 um, was 6.8 or 7.5, and 5.1 at 3.7 and 8.9 mg/L, respectively.
* The mass median diameter of respirable particulate for the 1.8 mg/L group
* could not be calculated.
**

** All rats exhibited slight to severe weight loss 1 day post exposure. At
* 8.9 mg/L, 1 rat continued to lose weight for 1 more day. Weight loss was
* followed by normal weight gain. Rats exposed to 1.8 and 3.7 mg/L
* exhibited red to brown ocular and/or nasal discharge for 1 day
* post-exposure. No other adverse clinical signs were observed.

F020 43379

EOR

F002 58

F010 5.1.2

F004 1

F005 TS

F006 Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity >98%

F007 Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity >98%

F020 43748

EOR

F002 58

F010 5.2.1

F004 1

F005 ME

F006 OECD 404. A 0.5 g sample was applied directly to the skin, and covered
* by a gauze patch, for a 4-hour exposure period. The control site was
* covered by a similar semi-occlusive dressing.

F007 OECD 404. A 0.5 g sample was applied directly to the skin, and covered
* by a gauze patch, for a 1-hour exposure period. The control site was
* covered by a similar semi-occlusive dressing.

F020 43383

EOR

F002 58

F010 5.2.1

F004 1

F005 RE

F006 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox
* AMBN: Acute Dermal Irritation/Corrosion Test In The Rabbit" (7/26/91).

F007 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox
* AMBN: Acute Dermal Irritation/Corrosion Test In The Rabbit" (7/26/91).

F020 43388

EOR

F002 58

F010 5.2.1

F004 1

F005 RM

F006 High because a scientifically defensible and guideline method was used.

F007 High because a scientifically defensible and guideline method was used.

F020 43749

EOR

F002 58

F010 5.2.1

F004 1

F005 RS

F006 There was no irritation seen in any of the three New Zeland white rabbits
* used in the study during the 72-hour observation period.

F007 There was no irritation seen in any of the three New Zealand white rabbits
* used in the study during the 72-hour observation period.
F020 43385
EOR
F002 58
F010 5.2.1
F004 1
F005 TS
F006 Perkadox AMBN, purity 98.5%.
F007 Perkadox AMBN, purity 98.5%.
F020 43381
EOR
F002 58
F010 5.2.1
F004 2
F005 RE
F006 DuPont Co. (1980). Unpublished Data, Haskell Laboratory Report No.
* 511-80.
F007 DuPont Co. (1980). unpublished Data, Haskell Laboratory Report No.
* 511-80.
F020 43391
EOR
F002 58
F010 5.2.1
F004 2
F005 RE
F006 DuPont Co. (1980). Unpublished Data, Haskell Laboratory Report No.
* 513-80.
F007 DuPont Co. (1980). Unpublished Data, Haskell Laboratory Report No.
* 513-80.
F020 43390
EOR
F002 58
F010 5.2.1
F004 2
F005 RM
F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F020 43389
EOR
F002 58
F010 5.2.2
F004 1
F005 ME
F006 The solid test substance (28.4 mg) was placed into the right conjunctival
* sac of each of 2 male albino rabbits. After 20 seconds, 1 treated eye
* was washed with tap water for 1 minute. The treated eye of the other
* rabbit was not washed. 0
F007 The solid test substance (28.4 mg) was placed into the right conjunctival
* sac of each of 2 male albino rabbits. After 20 seconds, 1 treated eye
* was washed with tap water for 1 minute. The treated eye of the other
* rabbit was not washed. Observations of the cornea, iris, and conjunctiva
* were made with a hand-slit lamp at 1 and 4 hours, and at 1, 2, and 3

* days. Fluor-i-strip stain and a biomicroscope were used at examinations
* after the day of treatment.

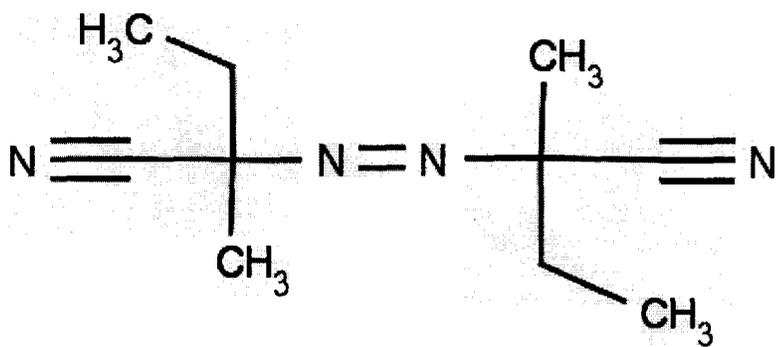
F020 43393
EOR
F002 58
F010 5.2.2
F004 1
F005 RE
F006 DuPont Co. (1980). Unpublished Data, Haskell Laboratory Report No.
* 514-80.
F007 DuPont Co. (1980). Unpublished Data, Haskell Laboratory Report No.
* 514-80.
F020 43396
EOR
F002 58
F010 5.2.2
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43750
EOR
F002 58
F010 5.2.2
F004 1
F005 RS
F006 The test substance produced no corneal, iritic, or conjunctival effects
* at any time when tested in rabbit eyes.
F007 The test substance produced no corneal, iritic, or conjunctival effects
* at any time when tested in rabbit eyes.
F020 43395
EOR
F002 58
F010 5.2.2
F004 1
F005 TS
F006 Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity 100%
F007 Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity 100%
F020 43751
EOR
F002 58
F010 5.2.2
F004 2
F005 ME
F006 OECD 404. A 0.1 g sample was instilled into the right eye of the
* animals. The left eye was untreated.
F007 OECD 404. A 0.1 g sample was instilled into the right eye of the
* animals. The left eye was untreated.
F020 43398
EOR
F002 58
F010 5.2.2
F004 2
F005 RE
F006 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox

* AMBN: Acute Eye Irritation Test In The Rabbit" (8/5/91).
F007 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox
* AMBN: Acute Eye Irritation Test In The Rabbit" (8/5/91).
F020 43402
EOR
F002 58
F010 5.2.2
F004 2
F005 RM
F006 High because a scientifically defensible and guideline method was used.
F007 High because a scientifically defensible and guideline method was used.
F020 43752
EOR
F002 58
F010 5.2.2
F004 2
F005 RS
F006 There was no irritation seen in any of the three animals used in the
* study at the 24-hour observation period until the end of the study
* (72-hour observation period). There was irritation of the conjunctiva
* and slight chemosis seen in all a
F007 There was no irritation seen in any of the three animals used in the
* study at the 24-hour observation period until the end of the study
* (72-hour observation period). There was irritation of the conjunctiva
* and slight chemosis seen in all animals, and iritis seen in two animals
* at the 1-hour observation period.
F020 43399
EOR
F002 58
F010 5.2.2
F004 2
F005 TS
F006 Perkadox AMBN, purity 98.5%.
F007 Perkadox AMBN, purity 98.5%.
F020 43397
EOR
F002 58
F010 5.3
F004 1
F005 ME
F006 The primary irritation test was conducted on 10 Duncan Hartley guinea
* pigs by applying 0.05 mL of an 80% and an 8% suspension of the test
* substance in **dimethyl** phthalate (DMP) on shaved, intact shoulder skin.
**
** The induction phase for sensit
F007 The primary irritation test was conducted on 10 Duncan Hartley guinea
* pigs by applying 0.05 mL of an 80% and an 8% suspension of the test
* substance in **dimethyl** phthalate (DMP) on shaved, intact shoulder skin.
**
** The induction phase for sensitization was a series of 4 sacral
* intradermal injections of 0.1 mL of a 1.0% suspension in DMP, 1 each week
* beginning 2 days after the test for primary irritation. After a 13-day
* rest period, the test guinea pigs were challenged for sensitization by
* applying and lightly rubbing in 0.05 mL of an 80% and an 8% suspension of
* the test substance in DMP on shaved intact shoulder skin. At the same
* time 10 unexposed guinea pigs (controls) of the same age received
* identical topical application. Reactions were observed at 24 and 48

* hours.
F020 43407
EOR
F002 58
F010 5.3
F004 1
F005 RE
F006 DuPont Co. (1980). Unpublished Data, Haskell Laboratory Report No.
* 511-80.
F007 DuPont Co. (1980). Unpublished Data, Haskell Laboratory Report No.
* 511-80.
F020 43412
EOR
F002 58
F010 5.3
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43753
EOR
F002 58
F010 5.3
F004 1
F005 RS
F006 The test substance caused no irritation on shaved intact skin of guinea
* pigs at 24 or 48 hours. None of the test guinea pigs showed a
* sensitization response.
F007 The test substance caused no irritation on shaved intact skin of guinea
* pigs at 24 or 48 hours. None of the test guinea pigs showed a
* sensitization response.
F020 43411
EOR
F002 58
F010 5.3
F004 1
F005 TS
F006 Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity 100%
F007 Butanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 67), purity 100%
F020 43754
EOR
F002 58
F010 5.5
F004 1
F005 ME
F006 OECD 471. Positive controls used were benzo[a]pyrene, 2 nitrofluorene,
* 2-aminoanthracene, 9-aminoacridine, and sodium azide. The solvent was
* DMSO. Exogenous metabolic activation was rat liver S-9.
F007 OECD 471. Positive controls used were benzo[a]pyrene, 2 nitrofluorene,
* 2-aminoanthracene, 9-aminoacridine, and sodium azide. The solvent was
* DMSO. Exogenous metabolic activation was rat liver S-9.
F020 43415
EOR
F002 58
F010 5.5

F004 1
F005 RE
F006 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox
* AMBN: Assessment Of Mutagenic Potential In Histidine Auxotrophs Of
* Salmonella Typhimurium (The Ames Test)' (7/25/91).
F007 Akzo Chemicals International BV (1991). Unpublished Data, "Perkadox
* AMBN: Assessment Of Mutagenic Potential In Histidine Auxotrophs Of
* Salmonella Typhimurium (The Ames Test)" (7/25/91).
F020 43419
EOR
F002 58
F010 5.5
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible and guideline
* method was used.
F007 Reliability: High because a scientifically defensible and guideline
* method was used.
F020 43755
EOR
F002 58
F010 5.5
F004 1
F005 RS
F006 No evidence of mutagenic activity was detected, with or without metabolic
* activation.
F007 No evidence of mutagenic activity was detected, with or without metabolic
* activation.
F020 43417
EOR
F002 58
F010 5.5
F004 1
F005 TS
F006 Perkadox AMBN, purity 98.5%.
F007 Perkadox AMBN, purity 98.5%.
F020 43414
EOR
F002 58
F010 5.5
F004 2
F005 RE
F006 Takenaka, S. I. et al. (1993). J. Toxicol. Sci., 18(4):418.
F007 Takenaka, S. I. et al. (1993). J. Toxicol. Sci., 18(4):418.
F020 43421
EOR
F002 58
F010 5.5
F004 2
F005 RM
F006 Data from this additional source support the study results summarized
* above. This study was not chosen for detailed summarization because the
* data were not substantially additive to the database.
F007 Data from this additional source support the study results summarized
* above. This study was not chosen for detailed summarization because the
* data were not substantially additive to the database.
F020 43420

EOR
F002 58
F010 5.6
F004 1
F005 ME
F006 The micronucleus test using acridine orange staining method was performed
* in male mice (8-weeks old) following double oral administration.
F007 The micronucleus test using acridine orange staining method was performed
* in male mice (8-weeks old) following double oral administration.
F020 43425
EOR
F002 58
F010 5.6
F004 1
F005 RE
F006 Takenaka, S. I. et al. (1993). J. Toxicol. Sci., 18(4):418.
F007 Takenaka, S. I. et al. (1993). J. Toxicol. Sci., 18(4):418.
F020 43428
EOR
F002 58
F010 5.6
F004 1
F005 RM
F006 Reliability: Not assignable because limited study information was
* available.
F007 Reliability: Not assignable because limited study information was
* available.
F020 43756
EOR
F002 58
F010 5.6
F004 1
F005 RS
F006 At 24 and 48 hours after treatment, the test substance did not produce a
* significant increase in the frequency of micronucleated polychromatic
* erythrocytes in the bone marrow of the treated mice.
F007 At 24 and 48 hours after treatment, the test substance did not produce a
* significant increase in the frequency of micronucleated polychromatic
* erythrocytes in the bone marrow of the treated mice.
F020 43427
EOR
F002 58
F010 5.6
F004 1
F005 TS
F006 Butanenitrile, 2,2'-azobis(2-methyl-, purity not specified.
F007 Butanenitrile, 2,2'-azobis(2-methyl-, purity not specified.
F020 43422
EOB
C
X



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F003 Y27-006
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F002 Y28-001
F003 Y27-002
F004 201-132-3
F005 3
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F003 Y27-003
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F002 60
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F009 N
F005 11031159
F006 15-12-2005
F007 11031159
F008 15-12-2005
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F001 11031159
F003 E. I. du Pont de Nemours and Company
F004 1007 Market Street
F005 Wilmington, Delaware
F006 19898
F008 **A31-024**
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D 60
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F001 60
F002 0
F003 3.1.2
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
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F001 60
F002 0
F003 1.1.0
F004 1
F005 1
F006 16-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 3.3.1
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 1
F005 1
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 2
F005 2
F006 15-12-2005
F007 15-12-2005

EOR

F001 60

F002 0

F003 1.2

F004 3

F005 3

F006 15-12-2005

F007 15-12-2005

EOR

F001 60

F002 0

F003 1.2

F004 4

F005 4

F006 15-12-2005

F007 15-12-2005

EOR

F001 60

F002 0

F003 1.2

F004 5

F005 5

F006 15-12-2005

F007 15-12-2005

EOR

F001 60

F002 0

F003 1.2

F004 6

F005 6

F006 15-12-2005

F007 15-12-2005

EOR

F001 60

F002 0

F003 1.2

F004 7

F005 7

F006 15-12-2005

F007 15-12-2005

EOR

F001 60

F002 0

F003 1.2

F004 8

F005 8

F006 15-12-2005

F007 15-12-2005

EOR

F001 60

F002 0

F003 1.2

F004 9

F005 9

F006 15-12-2005

F007 15-12-2005

EOR

F001 60
F002 0
F003 1.2
F004 10
F005 10
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 11
F005 11
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 12
F005 12
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 13
F005 13
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 14
F005 14
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 15
F005 15
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 16
F005 16
F006 04-01-2006
F007 15-12-2005
EOR
F001 60

F002 0
F003 1.2
F004 17
F005 17
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 18
F005 18
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 19
F005 19
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 20
F005 20
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.2
F004 21
F005 21
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 1.8.1
F004 1
F005 1
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.1
F004 1
F005 1
F006 16-12-2005
F007 15-12-2005
EOR
F001 60
F002 0

F003 2.1
F004 2
F005 2
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.3
F004 1
F005 1
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.3
F004 2
F005 2
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.4
F004 1
F005 1
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.4
F004 2
F005 2
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.4
F004 3
F005 3
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.5
F004 1
F005 1
F006 16-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.6.1

F004 1
F005 1
F006 16-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.6.1
F004 2
F005 2
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.6.1
F004 3
F005 3
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.9
F004 1
F005 1
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 2.9
F004 2
F005 2
F006 15-12-2005
F007 15-12-2005
EOR
F001 60
F002 0
F003 3.1.1
F004 1
F005 1
F006 04-01-2006
F007 15-12-2005
EOR
F001 60
F002 0
F003 3.5
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 3.5
F004 2

F005 2
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 3.7
F004 1
F005 1
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.1
F004 1
F005 1
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.1
F004 2
F005 2
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.1
F004 3
F005 3
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.2
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.2
F004 2
F005 2
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.2
F004 3
F005 3

F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.3
F004 1
F005 1
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.3
F004 2
F005 2
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 4.3
F004 3
F005 3
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.1.1
F004 1
F005 1
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.1.1
F004 2
F005 2
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.1.2
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.1.2
F004 2
F005 2
F006 16-12-2005

F007 16-12-2005

EOR

F001 60

F002 0

F003 5.1.3

F004 1

F005 1

F006 16-12-2005

F007 16-12-2005

EOR

F001 60

F002 0

F003 5.1.3

F004 2

F005 2

F006 16-12-2005

F007 16-12-2005

EOR

F001 60

F002 0

F003 5.2.1

F004 1

F005 1

F006 04-01-2006

F007 16-12-2005

EOR

F001 60

F002 0

F003 5.2.1

F004 2

F005 2

F006 16-12-2005

F007 16-12-2005

EOR

F001 60

F002 0

F003 5.2.1

F004 3

F005 3

F006 16-12-2005

F007 16-12-2005

EOR

F001 60

F002 0

F003 5.3

F004 1

F005 1

F006 **16-12-2005**

F007 16-12-2005

EOR

F001 60

F002 0

F003 5.3

F004 2

F005 2

F006 15-02-2006

F007 16-12-2005

EOR
F001 60
F002 0
F003 5.3
F004 3
F005 3
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.2.2
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.2.2
F004 2
F005 2
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.2.2
F004 3
F005 3
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.4
F004 1
F005 1
'F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.4
F004 2
F005 2
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.4
F004 3
F005 3
F006 04-01-2006
F007 16-12-2005
EOR

F001 60
F002 0
F003 5.4
F004 4
F005 4
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.8.2
F004 1
F005 1
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.8.3
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.5
F004 1
F005 1
F006 15-02-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.5
F004 2
F005 2
F006 04-01-2006
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.5
F004 3
F005 3
F006 16-12-2005
F007 16-12-2005
EOR
F001 60
F002 0
F003 5.6
F004 1
F005 1
F006 16-12-2005
F007 16-12-2005
EOR
F001 60

F002 0
F003 1.11
F004 1
F005 1
F006 04-01-2006
F007 04-01-2006

EOR

F001 60
F002 0
F003 2.2
F004 1
F005 1
F006 04-01-2006
F007 04-01-2006

EOR

F001 60
F002 0
F003 2.7
F004 1
F005 1
F006 04-01-2006
F007 04-01-2006

EOR

F001 60
F002 0
F003 1.1.1
F004 2
F005 2
F006 10-01-2006
F007 10-01-2006

EOR

F001 60
F002 0
F003 1.10
F004 1
F005 1
F006 15-02-2006
F007 15-02-2006

EOB

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B051 DS_COMPONENT_TAB

F001 60
F002 0
F003 78-67-1
F012 N
F010 15-12-2005
F004 11031159
F005 15-12-2005
F006 11031159
F007 15-12-2005

EOB

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B007 GI_SUBSTANCE_TAB

F001 60
F002 1
F003 16-12-2005

F004 GRAHAMRC
F009 164.2
F011 2,2'-Azobis(2-methylpropanenitrile)
EOB
C
B101 GI_GENERAL_INFORM_TAB
F001 60
F002 2
F003 10-01-2006
F004 GRABAMRC
F013 1
EOB
C
B102 GI_SYNONYM_TAB
F001 60
F002 1
F003 15-12-2005
F004 GRAHAMRC
F007 Vazo® 64
EOR
F001 60
F002 2
F003 15-12-2005
F004 GRAHAMRC
F007 Alpha, alpha'-azobis(isobutyronitrile)
EOR
F001 60
F002 3
F003 15-12-2005
F004 GRAHAMRC
F007 Alpha,alpha'-azodiisobutyronitrile
EOR
F001 60
F002 4
F003 15-12-2005
F004 GRAHAMRC
F007 Alpha,alpha'-azodiisobutyric acid dinitrile
EOR
F001 60
F002 5
F003 15-12-2005
F004 GRAHAMRC
F007 Azobis(isobutyronitrile)
EOR
F001 60
F002 6
F003 15-12-2005
F004 GRAHAMRC
F007 Azodiisobutyronitrile
EOR
F001 60
F002 7
F003 15-12-2005
F004 GRAHAMRC
F007 Azodiisobutyrodinitrile
EOR
F001 60

F002 8
F003 15-12-2005
F004 GRAHAMRC
F007 2,2'-Azobis(2-methylpropionitrile)
EOR
F001 60
F002 9
F003 15-12-2005
F004 GRAHAMRC
F007 2,2'-Azo-bis(isobutyronitrile)
EOR
F001 60
F002 10
F003 15-12-2005
F004 GRAHAMRC
F007 2,2'-Dicyano-2,2'-azopropane
EOR
F001 60
F002 11
F003 15-12-2005
F004 **GRAHAMRC**
F007 2,2'-Dimethyl-2,2'-azopropionitrile
EOR
F001 60
F002 12
F003 15-12-2005
F004 GRAHAMRC
F007 **Aceto** AZIB
EOR
F001 60
F002 13
F003 15-12-2005
F004 GRAHAMRC
F007 **Aceto** AZDH
EOR
F001 60
F002 14
F003 15-12-2005
F004 **GRAHAMRC**
F007 **Aceto** AZDN
EOR
F001 60
F002 15
F003 15-12-2005
F004 **GRAHAMRC**
F007 AIBN
EOR
F001 60
F 0 0 2 1 6
F003 04-01-2006
F004 GRAHAMRC
F007 **Genitron®**
EOR
F001 60
F002 17
F003 04-01-2006
F004 GRAHAMRC

F007 Genitron® AZDN

EOR

F001 60

F002 18

F003 15-12-2005

F004 GRAHAMRC

F007 Pianofor AN

EOR

F001 60

F002 19

F003 15-12-2005

F004 GRAHAMRC

F007 Porofor N

EOR

F001 60

F002 20

F003 15-12-2005

F004 GRAHAMRC

F007 Porofor-57

EOR

F001 60

F002 21

F003 15-12-2005

F004 GRAHAMRC

F007 Purifier N

EOB

C

B109 GI_EXPO_LIMIT_TAB

F001 60

F002 1

F003 15-12-2005

F004 GRAHAMRC

F007 **A17-09**: DuPont Acceptable Exposure Limit (AEL) 8-hour **TWA**

F008 1

F009 A16-03

EOB

C

B110 GI_SOURCE_OF_EXPOSURE_TAB

F001 60

F002 1

F003 15-02-2006

F004 MIKLESKA

F010 1

EOB

C

B114 GI_OTHER_TAB

F001 60

F002 1

F003 04-01-2006

F004 GRAHAMRC

F010 1

EOB

C

B201 PC-MELTING-TAB

F001 60

F002 1

F003 16-12-2005

F004 GRAHAMRC
F008 100
F009 103
F010 A30-02

F012 P01-03
F014 A03-01
F020 A01-01
EOR
F001 60
F002 2
F003 15-12-2005
F004 GRAHAMRC
EOB
C
B202 PC-BOILING-TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F017 1
EOB
C
B203 PC-DENSITY-TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F007 P05-03
F008 A02-06
F009 1.1
F013 P04-03: Method not available
F015 A03-02
F018 A01-01
EOR
F001 60
F002 2
F003 15-12-2005
F004 GRAHAMRC
EOB
C
B204 PC_VAPOUR_TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F016 1
F008 .0081
F010 P02-01
F011 25
F012 P06-02
F014 A03-03
F018 A01-01
EOR
F001 60
F002 2
F003 04-01-2006

F004 GRAHAMRC
F016 2
F008 .0019
F010 P02-01
F011 25
F012 P06-03
F014 A03-01
F018 A01-01
EOR
F001 60
F002 3
F003 04-01-2006
F004 GRAHAMRC
F016 3
EOB
C
B205 PC-PARTITION-TAB
F001 60
F002 1
F003 16-12-2005
F004 **GRAHAMRC**
F008 1.1
F010 25
F011 P07-02
F013 A03-03
F016 A01-01
F020 C15-001
EOB
C
B206 PC-WATER-SOL-TAB
F001 60
F002 1
F003 16-12-2005
F004 GRAHAMRC
F008 P08-02
F009 350
F011 25
F020 P09-02
F022 A03-03
F025 A01-01
F030 C14-001
EOR
F001 60
F002 2
F003 04-01-2006
F004 **GRAHAMRC**
F008 P08-02
F009 851.1
F011 25
F020 P09-03: Modeled
F022 A03-01
F025 A01-01
F030 C14-001
EOR
F001 60
F002 3
F003 15-12-2005

F004 GRAHAMRC
EOB
C
B207 PC-FLASH-TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F014 1
EOB
C
B209 PC_FLAMM_TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F008 P15-05: Not available

F013 A01-01
EOR
F001 60
F002 2
F003 15-12-2005
F004 GRAHAMRC
EOB
C
B301 EN-PHOTODEGRADATION-TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F007 A01-01
F008 F01-01
F009 F02-05
F043 A03-01
EOB
C
B302 EN-STABILITY-IN-WATER-TAB
F001 60
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 F08-01
F009 F09-02
F013 263
F014 F05-01
F015 25
F018 304
F019 F05-01
F020 25
F023 210
F024 F05-01
F025 25
F039 A03-03
EOB
C

B305 EN-TRANSPORT-TAB

F001 60

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 F20-07

F008 F22-01: Air, water, soil, and sediment

F009 F21-01

EOB

C

B308 EN-BIODEGRADATION-TAB

F001 60

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 A01-01

F008 F25-01

F009 F26-18

F011 F27-0166: Secondary activated sludge

F012 .7

F013 F28-02

F014 F29-03

F017 7

F018 28

F019 F05-01

F046 A03-03

F052 110

F053 F05-01

EOB

F001 60

F002 2

F003 16-12-2005

F004 GRAHAMRC

EOB

C

B310 EN_BIOACCUMULATION_TAB

F001 60

F002 1

F003 04-01-2006

F004 GRAHAMRC

F007 A01-01

F008 E02-0161: Modeled

F009 F34-06

F017 1.4

F020 A03-01

EOB

C

B401 EC_FISHTOX_TAB

F001 60

F002 1

F003 04-01-2006

F004 GRAHAMRC

F034 1

F007 A01-01

F008 E01-04

F009 E02-0012

F010 E03-03

F011 1996
F012 96
F013 E04-02
F014 E05-02
F016 250
F022 580
F032 A03-03
EOR
F001 60
F002 2
F003 04-01-2006
F004 GRAHAMRC
F034 2
F007 A01-01
F008 E01-03: Modeled
F009 E02-0161: Fish
F010 E03-05
F012 96
F013 E04-02
F014 E05-02
F022 853.9
F032 A03-01
EOR
F001 60
F002 3
F003 04-01-2006
F004 GRAHAMRC
F034 3
EOB
C
B402 EC_DAPHNIATOX_TAB
F001 60
F002 1
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 E06-0010
F009 E07-04
F010 1997
F011 48
F012 E04-02
F013 E05-02
F021 397
F031 A03-01
F042 E01-05
EOR
F001 60
F002 2
F003 04-01-2006
F004 GRAHAMRC
F007 A01-01
F008 E06-0013
F009 E07-04: Modeled by ECOSAR
F011 4 8
F012 E04-02
F013 E05-02
F021 859.8

F031 A03-01
F042 E01-03: Modeled
EOR
F001 60
F002 3
F003 16-12-2005
F004 GRAHAMRC
EOB
C
B403 EC_ALGAETOX_TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F007 A01-01
F008 E08-0056
F009 E09-03
F010 1996
F011 E10-01
F012 72
F013 E04-02
F014 E05-02
F016 4.2
F027 A02-04
F028 9.4
F034 A03-03
F035 A03-03
EOR
F001 60
F002 2
F003 04-01-2006
F004 GRAHAMRC
F007 A01-01
F008 E08-0063: Green algae
F009 E09-04: Modeled by ECOSAR
F011 E10-03
F012 96
F013 E04-02
F014 E05-02
F028 510.4
F035 A03-01
EOR
F001 60
F002 3
F003 16-12-2005
F004 GRAHAMRC
EOB
C
B501 TO-ACUTE-ORAL-TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F007 A01-01
F008 T01-03
F009 T02-24

F011 1974
F013 360
F015 T04-01
F016 A03-01
F019 T24-03
F022 T23-42
F023 251, 316, 398, and 501 mg/kg

EOR

F001 60
F002 2
F003 16-12-2005
F004 GRAHAMRC

EOB

C

B502 TO_ACUTE_INHAL_TAB

F001 60
F002 1
F003 16-12-2005
F004 GRAHAMRC

F007 A01-01
F008 T05-03
F009 T02-24
F010 T06-03
F011 1984

F012 A02-04
F013 7.78

F015 T07-01
F016 1

F017 T08-01
F018 A03-03

F021 T24-03
F022 40

F024 T23-48: Cr1:CD®
F025 1.57, 3.40, and 7.78 mg/L

EOR

F001 60
F002 2
F003 16-12-2005
F004 GRAHAMRC

EOB

C

B503 TO_ACUTE_DERMAL_TAB

F001 60
F002 1
F003 16-12-2005
F004 GRAHAMRC

F007 A01-01
F008 T01-05: ALD

F009 T02-23
F010 T09-02

F011 1974
F013 7940

F015 T04-01
F016 A03-01

F021 T52-003: Corn oil
F022 T23-31

F023 5010 and 7940 mg/kg

EOR

F001 60

F002 2

F003 16-12-2005

F004 GRAHAMRC

EOB

C

B505 TO_SKIN_IRRITATION_TAB

F001 60

F002 1

F003 04-01-2006

F004 GRAHAMRC

F007 A01-01

F008 T02-23

F009 T14-05

F010 1996

F012 T46-06

EOR

F001 60

F002 2

F003 16-12-2005

F004 GRAHAMRC

EOR

F001 60

F002 3

F003 16-12-2005

F004 GRAHAMRC

EOB

C

B506 TO_EYE_IRRITATION_TAB

F001 60

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 A01-01

F008 T02-23

F010 1996

F012 T46-06

F013 A03-03

EOR

F001 60

F002 2

F003 16-12-2005

F004 GRAHAMRC

EOR

F001 60

F002 3

F003 16-12-2005

F004 GRAHAMRC

EOB

C

B507 TO-SENSITIZATION-TAB

F001 60

F002 1

F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T18-04
F009 T02-10
F010 T20-02
F011 1996
F013 T21-02
F014 A03-03
EOR
F001 60
F002 2
F003 15-02-2006'
F004 MIKLESKA

F008 T18-10

F013 T21-02
F014 A03-02
EOR
F001 60
F002 3
F003 16-12-2005
F004 GRAHAMRC
EOB

C
B508 TO-REPEATED-DOSE-TAB
F001 60
F002 1
F003 04-01-2006
F004 GRAHAMRC
F007 A01-01
F008 T02-24

F012 T26-16: OECD Combined Repeat Dose and Reproductive/Developmental Toxicity
* Screening Tests Guideline 422.
F013 1997
F014 Males, 42 days; females, 14 days before mating to day 3 of laccation
F015 daily
F017 0, 2, 10, and 50 mg/kg/day
F018 T27-07
F020 2
F022 T28-03
F025 10
F027 T28-03
F029 A03-03
F032 C07-002
EOR
F001 60
F002 2
F003 16-12-2005
F004 GRAHAMRC
F007 A01-01
F008 T02-07

F009 T23-05
F010 T24-03
F011 T25-09
F012 T26-16
F013 1974
F014 90 days
F015 daily
F016 no
F017 0, 50, 150, 300, and 1000 ppm
F018 T27-07
F020 50
F022 T28-05
F025 150
F027 T28-05
F029 A03-01
F032 C07-002
EOR
F001 60
F002 3
F003 04-01-2006
F004 GRAHAMRC
F007 A01-01
F008 T02-24
F009 T23-48: Crl:CD(R)
F010 T24-02
F011 T25-08
F012 T26-16
F013 1981
F014 2 weeks
F015 6 hours a day, 5 days a week
F016 14 days
F017 0, 10.0, and 80.0 mg/m3
F018 T27-07
F029 A03-01
F032 C07-002
EOR
F001 60
F002 4
F003 16-12-2005
F004 GRAHAMRC
EOB
C
B509 TO_GENETIC_IN_VITRO_TAB
F001 60
F002 1
F003 15-02-2006
F004 MIKLESKA
F007 A01-01
F008 T30-05
F009 T31-10
F010 1997
F011 Salmonella typhimurium strains TA98, TA100, TA1535, TA1537, TA97 (without
* S9 mix), Escherichia coli WP2 uvrA
F012 T32-03
F013 T33-02
F014 A03-03
F015 With and without metabolic activation: 0, 313, 625, 1250, 2500, 5000

* ug/plate

EOB

F001 60

F002 2

F003 04-01-2006

F004 GRAHAMRC

EOB

F001 60

F002 3

F003 16-12-2005

F004 GRAHAMRC

F007 A01-01

F008 T30-20

F009 T31-12

F010 1997

F011 Chinese hamster lung (CHL/IU) cells'

F012 T32-03

F013 T33-02

F014 A03-03

F015 0, 0.40, 0.80, 1.6 mg/mL

EOB

C

B510 TO_GENETIC_IN_VIVO_TAB

F001 60

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 A01-01

F008 T34-07

F009 T02-18

F010 T23-48: ddy

F011 T37-15

F012 1993

F013 T24-02

F014 T25-10

F017 A03-02

F020 T33-02

EOB

C

B513 TO-DEVELOPMENTAL-TAB

F001 60

F002 1

F003 04-01-2006

F004 GRAHAMRC

F007 A01-01

F008 T02-24

F009 T23-49

F010 T24-03

F011 T25-03

F012 T44-03: OECD Combined Repeat Dose and Reproductive/Developmental Toxicity
* Screening Test Guideline 422

F013 1997

F015 Males: from 14 days before mating to 14 days after mating; Females: from
* 14 days before mating to day 3 of lactation

F016 daily

F017 0, 2, 10, and 50 mg/kg/day

F018 T27-07

F020 10
F022 T43-02
F029 A03-03

EOB

C

B018 TO-REPRODUCTION-OTHER-TAB

F001 60

F002 1

F003 16-12-2005

F004 GRAHAMRC

F007 C37-001

F008 C08-002

F012 T25-03

F013 Males: From 14 days before mating to 14 days after mating; Females
* Females: From 14 days before mating to day 3 of lactation

F014 daily

F016 A01-01

F017 0, 2, 10, and 50 mg/kg/day

F018 T27-07

F020 1997

F021 A03-03

EOB

C

B601 TEXT-TAB

F002 60

F010 1.1.1

F004 2

F005 AD

F006 Vazo 64 structure.bmp

F007 Vazo 64 structure.bmp

F020 45212

F021 Vazo 64 structure

F022 627942

F023 9:1:2006 12:48

F024 bmp

EOR

F002 60

F010 1.10

F004 1

F005 RM

F006 AMBN and its analogous compound, AIBN are solid free-radical initiators
* used industrially in polymerization reactions. Although the products have
* slightly different properties, they may, in most cases, be used
* interchangeably. There are no

F007 AMBN and its analogous compound, AIBN are solid free-radical initiators
* used industrially in polymerization reactions. Although the products have
* slightly different properties, they may, in most cases, be used
* interchangeably. There are no direct consumer uses of these products.
* Both compounds decompose when exposed to heat, releasing nitrogen gas and
* carbon-centered radicals. End-use applications include acrylics, resins,
* industrial polymers, and foams. The materials react rapidly and
* completely; thus, neither is recognizable in end-use products, and
* consumer exposure is unlikely. Transport of dry product in

* temperature-controlled containers is required for shipment of any amount
* greater than 100 grams. Exposure to either material would not occur
* during shipping, unless container integrity is compromised.
**

** During manufacturing uses, the most likely exposure is to skin, with some
* potential of airborne exposure during material transfer operations. The
* major manufacturers of AMBN practice Responsible Care. Specific
* manufacturing procedures and industrial hygiene programs in place at
* manufacturing sites limit the potential for employee exposure through use
* of engineering controls, environmental controls, and personal protective
* equipment. DuPont has set an Acceptable Exposure Limit (AEL) of 1 mg/mg3
* TWA for both AMBN and AIBN. DuPont also has a program to assess the
* ability of potential customers to safely handle the materials prior to
* commencing a commercial relationship. This assessment includes reviews
* and audits of PPE (personal protective equipment), safety equipment and
* procedures, structural integrity, and safety practices.

F020 51087

EOR

F002 60

F010 1.11

F004 1

F005 RM

F006 AIBN is exempt from the HPV program because it has already been evaluated
* through the Organization of Economic Cooperation and Development (OECD)
* high production volume (HPV) program. A SIDS Initial Assessment Report
* (SIAR) was prepared for

F007 AIBN is exempt from the HPV program because it has already been evaluated
* through the Organization of Economic Cooperation and Development (OECD)
* high production volume (HPV) program. A SIDS Initial Assessment Report
* (SIAR) was prepared for evaluation by the Ninth SIAM convened in France
* June 29 through July 1, 1999. The studies listed below were selected to
* represent the best available study design and execution for these HPV
* toxicity endpoints. Other data of equal or lesser quality are not
* summarized, but are listed as related references in this document.

F020 44925

EOR

F002 60

F010 1.8.1

F004 1

F005 RE

F006 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).

F007 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).

F020 43619

EOR

F002 60

F010 1.8.1

F004 1

F005 RM

F006 The 12-hour TWA value is 0.7 mg/m3.

F007 The 12-hour TWA value is 0.7 mg/m3.

F020 43618

EOR

F002 60

F010 2.1

F004 1

F005 RE

F006 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for

* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43621
EOR
F002 60
F010 2.1
F004 1
F005 RM
F006 Reliability: Not assignable because limited study information was
* available.
F007 Reliability: Not assignable because limited study information was
* available.
F020 43757
EOR
F002 60
F010 2.1
F004 2
F005 RE
F006 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F020 43623
EOR
F002 60
F010 2.1
F004 2
F005 RM
F006 Additional Reference for Melting Point:
F007 Additional Reference for Melting Point:
F020 43622
EOR
F002 60
F010 2.2
F004 1
F005 RM
F006 Not Applicable
F007 Not Applicable
F020 44926
EOR
F002 60
F010 2.3
F004 1
F005 RE
F006 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F020 43625
EOR
F002 60
F010 2.3
F004 1
F005 RM
F006 bulk density = ca. 25 lbs/ft3
F007 bulk density = ca. 25 lbs/ft3
F020 43624
EOR

F002 60
F010 2.3
F004 1
F005 RM
F006 Reliability: Not assignable because limited study information was
* available:
F007 Reliability: Not assignable because limited study information was
* available.
F020 43758
EOR
F002 60
F010 2.3
F004 2
F005 RE
F006 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS0000937).
F020 43628
EOR
F002 60
F010 2.3
F004 2
F005 RM
F006 Additional Reference for Density:
F007 Additional Reference for Density:
F020 43627
EOR
F002 60
F010 2.4
F004 1
F005 RE
F006 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43631
EOR
F002 60
F010 2.4
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43760
EOR
F002 60
F010 2.4
F004 1
F005 TS
F006 The purity of the test substance was 99.6%.
F007 The purity of the test substance was 99.6%.
F020 43629

EOR
F002 60
F010 2.4
F004 2
F005 ME
F006 Syracuse Research Corporation (SRC) program (SRC MPBPWIN v1.40 in EPIWIN
* v3.05) estimates the vapor pressure using the modified Grain method. A
* description of the methodology is detailed in Lyman, 1985.
F007 Syracuse Research Corporation (SRC) program (SRC MPBPWIN v1.40 in EPIWIN
* v3.05) estimates the vapor pressure using the modified Grain method. A
* description of the methodology is detailed in Lyman, 1985.
F020 43632
EOR
F002 60
F010 2.4
F004 2
F005 RE
F006 Lyman, W. J. (1985). In: Environmental Exposure From Chemicals, Volume
* I, Chapter 2, Neely, W. B. and G. E. Blau (eds.), CRC Press, Inc., Boca
* Raton, FL.
F007 Lyman, W. J. (1985). In: Environmental Exposure From Chemicals, Volume
* I, Chapter 2, Neely, W. B. and G. E. Blau (eds.), CRC Press, Inc., Boca
* Raton, FL.
F020 43635
EOR
F002 60
F010 2.4
F004 2
F005 RE
F006 SRC Database WsKow v1.4 in EPIWIN v3.05.
F007 SRC Database WsKow v1.4 in EPIWIN v3.05.
F020 44000
EOR
F002 60
F010 2.4
F004 2
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 44929
EOR
F002 60
F010 2.4
F004 3
F005 RE
F006 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F020 43637
EOR
F002 60
F010 2.4
F004 3
F005 RM
F006 Additional References for Vapor Pressure:
F007 Additional References for Vapor Pressure:
F020 43636
EOR

F002 60
F010 2.5
F004 1
F005 RE
F006 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43640
EOR
F002 60
F010 2.5
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43761
EOR
F002 60
F010 2.5
F004 1
F005 TS
F006 purity of the test substance was 98%.
F007 purity of the test substance was 98%.
F020 43638
EOR
F002 60
F010 2.6.1
F004 1
F005 RE
F006 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43643
EOR
F002 60
F010 2.6.1
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43762
EOR
F002 60
F010 2.6.1
F004 1
F005 RS
F006 350 mg/L (slightly soluble)

F007 350 mg/L (slightly soluble)
F020 43644
EOR
F002 60
F010 2.6.1
F004 1
F005 TS
F006 purity of the test substance was 99.6%.
F007 purity of the test substance was 99.6%.
F020 43641
EOR
F002 60
F010 2.6.1
F004 2
F005 ME
F006 Modeled. SRC's Database WsKow estimates the water solubility (Wsol) of an
* organic compound using the compound's log octanol-water partition
* coefficient (log Kow). The estimation methodology is described in Meylan
* et al., 1996.
F007 Modeled. SRC's Database WsKow estimates the water solubility (Wsol) of an
* organic compound using the compound's log octanol-water partition
* coefficient (log Kow). The estimation methodology is described in Meylan
* et al., 1996.
F020 43646
EOR
F002 60
F010 2.6.1
F004 2
F005 RE
F006 Meylan, W. M. et al. (1996). Environ. Toxicol. Chem., 15:100-106.
F007 Meylan, W. M. et al. (1996). Environ. Toxicol. Chem., 15:100-106.
F020 43648
EOR
F002 60
F010 2.6.1
F004 2
F005 RE
F006 SRC Database WsKow v1.4 in EPIWIN v3.05.
F007 SRC Database WsKow v1.4 in EPIWIN v3.05.
F020 43647
EOR
F002 60
F010 2.6.1
F004 2
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43763
EOR
F002 60
F010 2.6.1
F004 3
F005 RE
F006 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F007 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
F020 43650
EOR

F002 60
F010 2.6.1
 F004 3
 F005 RE
 F006 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
 * Storage, and Handling (also cited in TSCA Fiche OTS0000937).
 F007 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
 * Storage, and Handling (also cited in TSCA Fiche OTS0000937).
 F020 43651
 EOR
 F002 60
F010 2.6.1
 F004 3
 F005 RM
 F006 Additional References for Water Solubility:
 F007 Additional References for Water Solubility:
 F020 43649
 EOR
 F002 60
F010 2.7
 F004 1
 F005 **RM**
 F006 Not Applicable
 F007 Not Applicable
 F020 44927
 EOR
 F002 60

 F004 1
 F005 RE
 F006 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
 F007 DuPont Co. (2000). Material Safety Data Sheet No. B0000109 (March 28).
 F020 43654
 EOR
 F002 60
F010 2.9
 F004 1
 F005 RM
 F006 Reliability: Not assignable because limited study information was
 * available.
 F007 Reliability: Not assignable because limited study information was
 * available.
 F020 43764
 EOR
 F002 60
F010 2.9
 F004 1
 F005 RS
 F006 Flammable limits in air, % by volume: LEL = 0.02 g/L, UEL = Not
 * determined
 **
 ** Autoignition Temperature = 295°C
 F007 Flammable limits in air, % by volume: LEL = 0.02 g/L, UEL = Not
 * determined
 **
 ** Autoignition Temperature = 295°C
 F020 43653

EOR
F002 60
F010 2.9
F004 2
F005 RE
FO06 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. (n.d.). Vazo Polymerization Initiators: Properties, Uses,
* Storage, and Handling (also cited in TSCA Fiche OTS0000937).
F020 43656
EOR
F002 60
F010 2.9
F004 2
F005 RM
FO06 Additional Reference for Flammability:
FO07 Additional Reference for Flammability:
F020 43655
EOR
F002 60
F010 3.1.1
F004 1
F005 ME
FO0'6 Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research
* Corporation. The AOP Program, Version 1.90 from Syracuse Research
* Corporation, estimates the Atmospheric Oxidation Potential. The AOP
* program estimates the rate constant for
FO07 Calculated by AOP Computer Program, Vers. 1.90, Syracuse Research
* Corporation. The AOP Program, Version 1.90 from Syracuse Research
* Corporation, estimates the Atmospheric Oxidation Potential. The AOP
* program estimates the rate constant for the atmospheric, gas-phase
* reaction between photochemically produced hydroxyl radicals and organic
* chemicals. The methodology used by the Atmospheric Oxidation Program is
* based upon the structure-activity relationship (SAR) methods developed by
* Dr. Roger Atkinson and coworkers (Atkinson et al., 1984, 1987, 1995,
* 1996). The AOP Program is described in Meylan and Howard, 1993.
F020 43658
EOR
F002 60
F010 3.1.1
F004 1
F005 RE
FO06 Atkinson, R. et al. (1984). Chem. Rev., 84:437-470.
FO07 Atkinson, R. et al. (1984). Chem. Rev., 84:437-470.
F020 43659
EOR
F002 60
F010 3.1.1
F004 1
F005 RE
FO06 Atkinson, R. et al. (1987). Intern. J. Chem. Kinet., 19:799 828.
FO07 Atkinson, R. et al. (1987). Intern. J. Chem. Kinet., 19:799 828.
F020 43660
EOR
F002 60
F010 3.1.1
F004 1

F005 RE
 F006 Atkinson, R. et al. (1995). Atmos. Environ., 29:1685-1695.
 F007 Atkinson, R. et al. (1995). Atmos. Environ., 29:1685-1695.
 F020 43661
 EOR
 F002 60
F010 3.1.1
 F004 1
F005 RE
 F006 Atkinson, R. et al. (1996). Environ. Sci. Technol., 30:329 334.
 F007 Atkinson, R. et al. (1996). Environ. Sci. Technol., 30:329 334.
 F020 43662
 EOR
 F002 60
F010 3.1.1
 F004 1
F005 RE
 F006 Meylan, W. M. and P. H. Howard (1993). Chemosphere, 26:2293-2299.
 F007 Meylan, W. M. and P. H. Howard (1993). Chemosphere, 26:2293-2299.
 F020 43663
 EOR
 F002 60
F010 3.1.1
 F004 1
F005 RM
 F006 Reliability: Estimated value based on accepted model.
 F007 Reliability: Estimated value based on accepted model.
 F020 43765
 EOR
 F002 60
F010 3.1.1
 F004 1
F005 RS
 F006 Indirect Photolysis: OH Half-life = 15.99 days (12-hour day;
 * concentration of OH radicals = 1.5x10E6 OH/cm3).
 F007 Indirect Photolysis: OH Half-life = 15.99 days (12-hour day;
 * concentration of OH radicals = 1.5x10E6 OH/cm3).
 F020 43664
 EOR
 F002 60
F010 3.1.2
 F004 1
F005 RE
 F006 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
 * 2,2'-Azobis(2-methylpropionitrile),
 * <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
 F007 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
 * 2,2'-Azobis(2-methylpropionitrile),
 * <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
 F020 43768
 EOR
 F002 60
F010 3.1.2
 F004 1
F005 RM
 F006 Reliability: High because a scientifically defensible or guideline method
 * was used.

F007 Reliability: High because a scientifically defensible or guideline method
* was used.

F020 43767

EOR

F002 60

F010 3.1.2

F004 1

F005 TS

purity 99.6%

F007 2,2'-Azobis(2-methylpropionitrile), purity 99.6%

F020 43766

EOR

F002 60

F010 3.3.1

F004 1

F005 ME

F006 fugacity model level III

F007 fugacity model level III

F020 43769

EOR

F002 60

F010 3.3.1

F004 1

F005 RE

F006 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F007 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F020 43772

EOR

F002 60

F010 3.3.1

F004 1

F005 RM

F006 Reliability: Estimated value based on accepted model.

F007 Reliability: Estimated value based on accepted model.

F020 43771

EOR

F002 60

F010 3.3.1

F004 1

F005 RS

F006 Released 100% to air: Air = 31.0%; water = 40.9%; soil = 27.9%; and
* sediment = 0.2%

**

** Released 100% to water: Air = 0.5%; water = 98.6%; soil = 0.5%; and
* sediment = 0.4%

**

** Released 100% to soil: Air = 0.7%; water = 28.6%; soil = 70.6%; and se

F007 Released 100% to air: Air = 31.0%; water = 40.9%; soil = 27.9%; and
* sediment = 0.2%

**

** Released 100% to water: Air = 0.5%; water = 98.6%; soil = 0.5%; and
* sediment = 0.4%

**

** Released 100% to soil: Air = 0.7%; water = 28.6%; soil = 70.6%; and
* sediment = 0.1%

F020 43770
EOR
F002 60
F010 3.5
F004 1
F005 ME
F006 OECD Guideline 301. Secondary activated sludge was used as the
* inoculum. The concentration of the test substance used was 0.7 mg/L.
* The vehicle was dichloromethane.
F007 OECD Guideline 301. Secondary activated sludge was used as the
* inoculum. The concentration of the test substance used was 0.7 mg/L.
* The vehicle was dichloromethane.
F020 43774
EOR
F002 60
F010 3.5
F004 1
F005 RE
F006 Akzo Nobel Chemicals (n.d.). Unpublished Data, "Biodegradability Of
* Perkadox AIBN In The Closed Bottle Test."
F007 Akzo Nobel Chemicals (n.d.). Unpublished Data, "Biodegradability Of
* Perkadox AIBN In The Closed Bottle Test."
F020 43777
EOR
F002 60
F010 3.5
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible and guideline
* method was used.
F007 Reliability: High because a scientifically defensible and guideline
* method was used.
F020 43776
EOR
F002 60
F010 3.5
F004 1
F005 RS
F006 Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN) biodegraded 7% at
* day 28 (with silica gel). There was no biodegradation at day 20. The
* biodegradation only slightly increased to about 15% in the prolonged
* study of approximately 110 d
F007 Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN) biodegraded 7% at
* day 28 (with silica gel). There was no biodegradation at day 20. The
* biodegradation only slightly increased to about 15% in the prolonged
* study of approximately 110 days.
F020 43775
EOR
F002 60
F010 3.5
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN)
F007 Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN)
F020 43773

EOR
F002 60
F010 3.5
F004 2
F005 RE
F006 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 MITI, JAPAN (n.d.). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43779
EOR
F002 60
F010 3.5
F004 2
F005 RM
F006 Data from this additional source support the study results summarized
* above. This study was not chosen for detailed summarization because the
* data were not substantially additive to the database.
F007 Data from this additional source support the study results summarized
* above. This study was not chosen for detailed summarization because the
* data were not substantially additive to the database.
F020 43778
EOR
F002 60
F010 3.7
F004 1
F005 ME
F006 Calculated by BCFWIN Computer Program, Vers. 2.14, Syracuse Research
* Corporation (based on reference below).
**
**
* The estimation methodology used by BCFWIN is described in the following
* document prepared for the U. S. Environmental Protection
F007 Calculated by BCFWIN Computer Program, Vers. 2.14, Syracuse Research
* Corporation (based on reference below).
**
**
* The estimation methodology used by BCFWIN is described in the following
* document prepared for the U. S. Environmental Protection Agency (OPPT):
* "Improved Method for Estimating Bioconcentration Factor (BCF) from
* Octanol-Water Partition Coefficient," SRC TR-97-006 (2nd Update), July
* 22, 1997; prepared for Robert S. Boethling, EPA-OPPT, Washington, DC;
* Contract No. 68 D5-0012; prepared by William M. Meylan, Philip H. Howard,
* Dallas Aronson, Heather Printup, and Sybil Gouchie; Syracuse Research
* Corp., Environmental Science Center, 6225 Running Ridge Road, North
* Syracuse, NY 13212.
F020 43780
EOR
F002 60
F010 3.7
F004 1
F005 RE
F006 Meylan, W. M. et al. (1997). "Improved Method for Estimating
* Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient,"
* SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S.
* Boethling, EPA-OPPT, Washington, DC; Con
F007 Meylan, W. M. et al. (1997). "Improved Method for Estimating

* Bioconcentration Factor (BCF) from Octanol-Water Partition Coefficient,"
* SRC TR-97-006 (2nd Update), July 22, 1997; prepared for Robert S.
* Boethling, EPA-OPPT, Washington, DC; Contract No. 68 D5-0012; prepared by
* William M. Meylan, Philip H. Howard, Dallas Aronson, Heather Printup, and
* Sybil Gouchie; Syracuse Research Corp., Environmental Science Center,
* 6225 Running Ridge Road, North Syracuse, NY 13212.

F020 43781

EOR

F002 60

F010 3.7

F004 1

F005 RM

F006 Reliability: Estimated value based on accepted model.

F007 Reliability: Estimated value based on accepted model.

F020 43782

EOR

F002 60

F010 3.7

F004 1

F005 RS

F006 1.403 (Log BCF = 0.147)

F007 1.403 (Log BCF = 0.147)

F020 43783

EOR

F002 60

F010 4.1

F004 1

F005 ME

F006 OECD Guideline 203. Fish (7/dose group) were exposed to 62.5, 125, 250,
* 500, or 1000 mg/L under semi-static conditions. The temperature was
* 22.5-23.5°C. The oxygen concentrations were 8.6-8.9 mg/L. The pH ranged
* from 7.9-8.2. The water

F007 OECD Guideline 203. Fish (7/dose group) were exposed to 62.5, 125, 250,
* 500, or 1000 mg/L under semi-static conditions. The temperature was
* 22.5-23.5°C. The oxygen concentrations were 8.6-8.9 mg/L. The pH ranged
* from 7.9-8.2. The water hardness was 12°dH. The fish had an average
* size of 3.1 cm and an average weight of 0.31 g.

F020 43785

EOR

F002 60

F010 4.1

F004 1

F005 RE

F006 Akzo Nobel Chemicals (1996). Unpublished Data, "Acute Toxicity Of
* Perkadox AIBN To The Freshwater Fish Brachydanio Rerio" (3/21/96).

F007 Akzo Nobel Chemicals (1996). Unpublished Data, "Acute Toxicity Of
* Perkadox AIBN To The Freshwater Fish Brachydanio

F020 43788

EOR

F002 60

F010 4.1

F004 1

F005 RM

F006 Reliability: Medium because a suboptimal study design was used (nominal
* test concentrations).

F007 Reliability: Medium because a suboptimal study design was used (nominal
* test concentrations).

F020 43787
EOR
F002 60
F010 4.1
F004 1
F005 RS
F006 There was no mortality or signs of toxicity observed at concentrations of
* 62.5, 125, and 250 mg/L. There was 29% mortality at 500 mg/L and 100%
* mortality at 1000 mg/L. The NOEC was 250 mg/L.
F007 There was no mortality or signs of toxicity observed at concentrations of
* 62.5, 125, and 250 mg/L. There was 29% mortality at 500 mg/L and 100%
* mortality at 1000 mg/L. The NOEC was 250 mg/L.
F020 43786
EOR
F002 60
F010 4.1
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN), purity 99.2%
F007 Propanenitrile, 2,2'-azobis(2-methyl- (Perkadox AIBN), purity 99.2%
F020 43784
EOR
F002 60
F010 4.1
F004 2
F005 RE
F006 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washi
F007 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington, DC, prepared by Syracuse Research
* Corp., Environmental Science Center, Syracuse, NY 13210.
F020 43790
EOR
F002 60
F010 4.1
F004 2
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43791
EOR
F002 60
F010 4.1
F004 2
F005 RS
F006 853.9 mg/L; log Kow = 1.1
F007 853.9 mg/L; log Kow = 1.1
F020 43792
EOR
F002 60
F010 4.1
F004 3
F005 RE

F006 DuPont Co. (1997). Unpublished Data, Haskell Laboratory Report No.
* 1997-01184.

F007 DuPont Co. (1997). Unpublished Data, Haskell Laboratory Report No.
* 1997-01184.

F020 43794

EOR

F002 60

F010 4.1

F004 3

F005 RE

F006 Environment Agency of Japan (1996). (cited in OECD SIDS Dossier for 2,2'
* **Azobis(2-methylpropionitrile)**,
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F007 Environment Agency of Japan (1996). (cited in OECD SIDS Dossier for 2,2'
* **Azobis(2-methylpropionitrile)**,
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F020 43795

EOR

F002 60

F010 4.1

F004 3

F005 RM

F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.

F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.

F020 43793

EOR

F002 60

F010 4.2

F004 1

F005 ME

F006 Daphnia magna were exposed to the test substance in a static, acute
* 48-hour screening test. Nominal concentrations tested were 0, 0.5, 1.0,
* 50, 500, and 5000 **mg/L**, with replicate test chambers used at each dose
* level. Dissolved oxygen and

F007 Daphnia magna were exposed to the test substance in a static, acute
* 48-hour screening test. Nominal concentrations tested were 0, 0.5, 1.0,
* 50, 500, and 5000 **mg/L**, with replicate test chambers used at each dose
* level. Dissolved oxygen and **pH** were reported at test initiation (0 hours)
* and test completion (48 hours).

F020 43797

EOR

F002 60

F010 4.2

F004 1

F005 RE

F006 DuPont Co. (1997). Unpublished Data, Haskell Laboratory Report No.
* 1997-01185.

F007 DuPont Co. (1997). Unpublished Data, Haskell Laboratory Report No.
* 1997-01185.

F020 43800

EOR

F002 60

F010 4.2

F004 1
F005 RM
F006 Reliability: Medium because a suboptimal study design was used (nominal
* test concentrations).
F007 Reliability: Medium because a suboptimal study design was used (nominal
* test concentrations).
F020 43799
EOR
F002 60
F010 4.2
F004 1
F005 RS
F006 The test substance exhibited slight toxicity in a 48-hour, unaerated,
* static acute test using Daphnia magna. Based on visual observations, the
* water control solution was clear and had no color, and the 0.5, 1.0, 50,
* 500, and 5000 mg/L test
F007 The test substance exhibited slight toxicity in a 48-hour, unaerated,
* static acute test using Daphnia magna. Based on visual observations, the
* water control solution was clear and had no color, and the 0.5, 1.0, 50,
* 500, and 5000 mg/L test solutions all had undissolved test material
* present throughout the test. Inunobilities were 0, 0, 0, 0, 60, and 100%
* at 0, 0.5, 1.0, 50, 500, and 5000 mg/L, respectively. All water quality
* parameters were within acceptable limits. Dissolved oxygen at test
* initiation and completion was 8.4 mg/L. The pH ranged from 7.7-7.8 and
* 7.9-8.2 at test initiation and completion, respectively. The 48-hour
* EC50 was 397 mg/L (95% confidence interval, 195-811 mg/L).
F020 43798
EOR
F002 60
F010 4.2
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64) purity not specified
F007 Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64) purity not specified
F020 43796
EOR
F002 60
F010 4.2
F004 2
F005 RE
F006 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washi
F007 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington, DC, prepared by Syracuse Research
* Corp., Environmental Science Center, Syracuse, NY 13210.
F020 43802
EOR
F002 60
F010 4.2
F004 2
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.

F020 43803
EOR
F002 60
F010 4.2
F004 2
F005 RS
F006 859.8 mg/L; log Kow = 1.1
F007 859.8 mg/L; log Kow = 1.1
F020 43801
EOR
F002 60
F010 4.2
F004 3
F005 RE
F006 Environment Agency of Japan (1995). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 Environment Agency of Japan (1995). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43805
EOR
F002 60
F010 4.2
F004 3
F005 RE
F006 Service Analyse Environment (France). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 Service Analyse Environment (France) , (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43806
EOR
F002 60
F010 4.2
F004 3
F005 RM
F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F020 43804
EOR
F002 60
F010 4.3
F004 1
F005 ME
F006 OECD Guideline 201 (1984) was performed. The EC50 value for growth rate
* (% inhibition) was calculated based on 5 measured concentrations (0.46,
* 0.71, 2.1, 4.2, and 9.4 mg/L). DMF of 100 mg/L was used as a solubilizer.
F007 OECD Guideline 201 (1984) was performed. The EC50 value for growth rate
* (% inhibition) was calculated based on 5 measured concentrations (0.46,
* 0.71, 2.1, 4.2, and 9.4 mg/L). DMF of 100 mg/L was used as a solubilizer.
F020 43808

EOR
F002 60
F010 4.3
F004 1
F005 RE
F006 Environment Agency of Japan (1996). (cited in OECD SIDS Dossier for 2,2'
* Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 Environment Agency of Japan (1996). (cited in OECD SIDS Dossier for 2,2'
* Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43810
EOR
F002 60
F010 4.3
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43809
EOR
F002 60
F010 4.3
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.3%
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.3%
F020 43807
EOR
F002 60
F010 4.3
F004 2
F005 RE
F006 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washi
F007 Meylan, W. M. and P. H. Howard (1999). User's Guide for the ECOSAR Class
* Program, Version 0.993 (Mar 99), prepared for J. Vincent Nabholz and
* Gordon Cas, U.S. Environmental Protection Agency, Office of Pollution
* Prevention and Toxics, Washington, DC, prepared by Syracuse Research
* Corp., Environmental Science Center, Syracuse, NY 13210.
F020 43813
EOR
F002 60
F010 4.3
F004 2
F005 RM
F006 Reliability: Estimated value based on accepted model.
F007 Reliability: Estimated value based on accepted model.
F020 43812
EOR
F002 60
F010 4.3
F004 2

F005 RS
F006 96-hour EC50 = 510.4 mg/L; log Kow = 1.1
F007 96-hour EC50 = 510.4 mg/L; log Kow = 1.1
F020 43811
EOR
F002 60
F010 4.3
F004 3
F005 RE
F006 Service Analyse Environment (France). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 Service Analyse Environment (France). (cited in OECD SIDS Dossier for
* 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43815
EOR
F002 60
F010 4.3
F004 3
F005 RM
F006 Data from this additional source support the study results summarized
* above. This study was not chosen for detailed summarization because the
* data were not substantially additive to the database.
F007 Data from this additional source support the study results summarized
* above. This study was not chosen for detailed summarization because the
* data were not substantially additive to the database.
F020 43814
EOR
F002 60
F010 5.1.1
F004 1
F005 ME
F006 Male and female Sprague Dawley rats (S/dose level) were given single oral
* doses of a 10.0% solution-suspension in corn oil at doses of 251, 316,
* 398, and 501 mg/kg. Clinical signs of toxicity were recorded. Survivors
* were killed 14 days 1
F007 Male and female Sprague Dawley rats (S/dose level) were given single oral
* doses of a 10.0% solution-suspension in corn oil at doses of 251, 316,
* 398, and 501 mg/kg. Clinical signs of toxicity were recorded. Survivors
* were killed 14 days later and gross autopsy was performed.
F020 43817
EOR
F002 60
F010 5.1.1
F004 1
F005 RE
F006 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche OTS0545441).
F007 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche 0150545441).
F020 43819
EOR
F002 60
F010 5.1.1
F004 1
F005 RM

F006 Reliability: Medium because a suboptimal study design was used.
F007 Reliability: Medium because a suboptimal study design was used.
F020 43820
EOR
F002 60
F010 5.1.1
F004 1
F005 RS
F006 Mortality was 0/5, and 5/5 at 251, 316, 398, and 501 mg/kg.
* Mortality occurred in 1 to 5 days, with most deaths within 2 days.
* Clinical signs of toxicity included reduced appetite and activity (2-3
* days in survivors), increasing
F007 Mortality was 0/5, and 5/5 at 251, 316, 398, and 501 mg/kg.
* Mortality occurred in 1 to 5 days, with most deaths within 2 days.
* Clinical signs of toxicity included reduced appetite and activity (2-3
* days in survivors), increasing weakness, tremors, collapse, and death.
* Gross autopsy of animals that died revealed hemorrhagic areas of the
* lungs and liver, and acute gastrointestinal inflammation. The viscera
* appeared normal in survivors. The LD50 was 360 mg/kg (95% confidence
* limits, 340-380 mg/kg).
F020 43818
EOR
F002 60
F010 5.1.1
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F020 43816
EOR
F002 60
F010 5.1.1
F004 2
F005 RE
F006 Budavari, S. et al. (eds.) (1989). The Merck Index. An Encyclopedia of
* Chemicals, Drugs, and Biologicals, p. 146, Merck & Co., Inc., Rahway, NJ.
F007 Budavari, S. et al. (eds.) (1989). The Merck Index. An Encyclopedia of
* Chemicals, Drugs, and Biologicals, p. 146, Merck & Co., Inc., Rahway, NJ.
F020 43824
EOR
F002 60
F010 5.1.1
F004 2
F005 RE
F006 DuPont Co. (1947). Unpublished Data, Haskell Laboratory Report No. 25-47.
F007 DuPont Co. (1947). Unpublished Data, Haskell Laboratory Report No. 25-47.
F020 43823
EOR
F002 60
F010 5.1.1
F004 2
F005 RE
F006 DuPont Co. ((1962). Unpublished Data, Haskell Laboratory Report No. 27-62
* (also cited in TSCA Fiche OTS0546516 and OTS0000937).
F007 DuPont Co. ((1962). Unpublished Data, Haskell Laboratory Report No. 27-62
* (also cited in TSCA Fiche OTS0546516 and OTS0000937).
F020 43822

EOR
F002 60
F010 5.1.1
F004 2
F005 RE
F006 Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.
F007 Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.
F020 43826
EOR
F002 60
F010 5.1.1
F004 2
F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F007 Eastman-Kodak co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F020 43825
EOR
F002 60
F010 5.1.1
F004 2
F005 RE
F006 Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. - Issled.
* Inst. Gig. Tr. Profzabol., pp. 247-251.
F007 Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. - Issled.
* Inst. Gig. Tr. Profzabol., pp. 247-251.
F020 43827
EOR
F002 60
F010 5.1.1
F004 2
F005 RM
F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F020 43821
EOR
F002 60
F010 5.1.2
F004 1
F005 ME
F006 The method was in accordance with the International Maritime Dangerous
* Code (IMDG code, pg. 6003-1,2). Male and female Crl:CD® rats
* (10/exposure level) were exposed nose only to the test substance at
* concentrations of 1.57, 3.40, and 7.78
F007 The method was in accordance with the International Maritime Dangerous
* Code (IMDG code, pg. 6003-1,2). Male and female Crl:CD® rats
* (10/exposure level) were exposed nose only to the test substance at
* concentrations of 1.57, 3.40, and 7.78 mg/L. All rats were weighed and
* observed daily for 2 weeks post-exposure, except for the Saturday and
* Sunday of the 2nd week post-exposure. At approximately 10-minute
* intervals, calibrated volumes of test atmospheres were drawn through
* pre-weighed glass fiber filters, and atmospheric concentrations were

* determined. Percent respirability (equal to or less than 10 μ m) was
* determined during each exposure. Percent respirability was 7.96, 10.0,
* and 6.65 at 1.57, 3.40, and 7.78 mg/L, respectively.

F020 43829

EOR

F002 60

F010 5.1.2

F004 1

F005 RE

F006 DuPont Co. (1984). Unpublished Data, Haskell Laboratory Report No.
* 196-84.

F007 DuPont Co. (1984). Unpublished Data, Haskell Laboratory Report No.
* 196-84.

F020 43832

EOR

F002 60

F010 5.1.2

F004 1

F005 RM

F006 Reliability: Medium because a suboptimal study design was used. Only a
* small percentage of particles in the exposure atmospheres were of
* respirable size.

F007 Reliability: Medium because a suboptimal study design was used. Only a
* small percentage of particles in the exposure atmospheres were of
* respirable size.

F020 43831

EOR

F002 60

F010 5.1.2

F004 1

F005 RS

F006 One male rat died 1 day after exposure to 1.57 mg/L. No other deaths
* occurred throughout the study. Most rats exhibited moderate to severe
* weight losses 1 or 2 days after exposure, followed by a return to a
* normal weight gain rate. **Appro**

F007 One male rat died 1 day after exposure to 1.57 mg/L. No other deaths
* occurred throughout the study. Most rats exhibited moderate to severe
* weight losses 1 or 2 days after exposure, followed by a return to a
* normal weight gain rate. Approximately $\frac{1}{2}$ of the rats exhibited wet or
* stained perineal areas for 1 to 2 days after exposure. Most females
* exhibited sporadic weight loss during the 2-week observation period.
* Seven of 10 female rats exposed to 7.78 mg/L had hair loss, mainly around
* the head, face, and forelegs. No male rats had **hairloss** at this
* concentration. Two males and 1 **female** had back or foreleg hair loss
* after exposure to 3.40 mg/L; no rats had hair loss after exposure to 1.57
* mg/L. During exposures, rats' faces were covered with dust, which was
* removed from the fur after the exposure. A dried red discharge around
* the facial area was observed in some rats a day after exposure, but was
* not considered test substance-related.

F020 43830

EOR

F002 60

F010 5.1.2

F004 1

F005 TS

F006 Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64), purity >98%

F007 Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64), purity >98%

F020 43828
EOR
F002 60
F010 5.1.2
F004 2
F005 RE
F006 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS0000937).
F020 43834
EOR
F002 60
F010 5.1.2
F004 2
F005 RE
F006 DuPont Co. (1981). Unpublished Data, Haskell Laboratory Report No. 40-81
* (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. (1981). Unpublished Data, Haskell Laboratory Report No. 40-81
* (also cited in TSCA Fiche OTS0000937).
F020 43835
EOR
F002 60
F010 5.1.2
F004 2
F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F007 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F020 43836
EOR
F002 60
F010 5.1.2
F004 2
F005 RM
F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F020 43833
EOR
F002 60
F010 5.1.3
F004 1
F005 ME
F006 The test substance was applied as a 40.0% solution-suspension in corn oil
* to the skin of rabbits (1 male or 1 female) for a 24-hour exposure.
* Survivors were killed 14 days later.
F007 The test substance was applied as a 40.0% solution-suspension in corn oil
* to the skin of rabbits (1 male or 1 female) for a 24-hour exposure.
* Survivors were killed 14 days later.
F020 43838
EOR
F002 60

F010 5.1.3
F004 1
F005 RE
F006 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche OTS0545441).
F007 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche OTS0545441).
F020 43841
EOR
F002 60
F010 5.1.3
F004 1
F005 RM
F006 Reliability: Medium because a suboptimal study design was used.
F007 Reliability: Medium because a suboptimal study design was used.
F020 43840
EOR
F002 60
F010 5.1.3
F004 1
F005 RS
F006 The animal dosed with 5010 mg/kg survived, while the rabbit dosed with
* 7940 mg/kg died within 9 days. Clinical signs observed included reduced
* appetite and activity (4 days in the survivor), increasing weakness,
* collapse, and death. Gross
F007 The animal dosed with 5010 mg/kg survived, while the rabbit dosed with
* 7940 mg/kg died within 9 days. Clinical signs observed included reduced
* appetite and activity (4 days in the survivor), increasing weakness,
* collapse, and death. Gross autopsy of the rabbit that died revealed
* hemorrhagic areas of the lungs, liver hyperemia, enlarged gall bladder,
* discolored kidneys, and gastrointestinal inflammation. The viscera of
* survivors appeared normal.
F020 43839
EOR
F002 60
F010 5.1.3
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F020 43837
EOR
F002 60
F010 5.1.3
F004 2
F005 RE
F006 Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.
F007 Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.
F020 43843
EOR
F002 60
F010 5.1.3
F004 2
F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary ((TSCA Fiche
* OTS0001156).
F007 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary ((TSCA Fiche

* OTS0001156).

F020 43844

EOR

F002 60

F010 5.1.3

F004 2

F005 RE

F006 Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. - Issled.
* Inst. Gig. Tr. Profzabol., pp. 247-251.

F007 Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. Issled.
* Inst. Gig. Tr. Profzabol., pp. 247-251.

F020 43845

EOR

F002 60

F010 5.1.3

F004 2

F 0 0 5 R M

F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.

F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.

F020 43842

EOR

F002 60

F010 5.2.1

F004 1

F005 ME

F006 Also followed EC Guideline 92/69/E.E.C, B4

F007 Also followed EC Guideline 92/69/E.E.C, B4

F020 44928

EOR

F002 60

F010 5.2.1

F004 1

F005 RE

F006 ELF Atochem (1996). Laboratory study number 14350 TSG (cited in OECD
* SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F007 ELF Atochem (1996). Laboratory study number 14350 TSG (cited in OECD
* SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F020 43849

EOR

F002 60

F010 5.2.1

F004 1

F005 **RM**

F006 Reliability: High because a scientifically defensible or guideline method
* was used.

F007 Reliability: High because a scientifically defensible or guideline method
* was used.

F020 43848

EOR

F002 60

F010 5.2.1

F004 1
F005 RS
F006 The test material was not irritating to rabbit skin.
F007 The test material was not irritating to rabbit skin.
F020 43847
EOR
F002 60
F010 5.2.1
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
F020 43846
EOR
F002 60
F010 5.2.1
F004 2
F005 RE
F006 Eastman Kodak Co. (1960). TSCA Fiche 0180555369.
F007 Eastman Kodak Co. (1960). TSCA Fiche OTS0555369.
F020 43854
EOR
F002 60
F010 5.2.1
F004 2
F005 RE
F006 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche **OTS0545441**).
F007 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche OTS0545441).
F020 43855
EOR
F002 60
F010 5.2.1
F004 2
F005 RM
F006 Data from these additional sources supports the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources supports the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F020 43850
EOR
F002 60
F010 5.2.1
F004 3
F005 RE
F006 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS0000937).
F020 43857
EOR
F002 60
F010 5.2.1
F004 3

F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary ((TSCA Fiche
* OTS0001156)).
F007 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary ((TSCA Fiche
* OTS0001156)).
F020 43858
EOR
F002 60
F010 5.2.1
F004 3
F005 RE
F006 Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. - Issled.
* Inst. Gig. Tr. Profzabol., pp. 247-251.
F007 Rusin, V. Y. (1958). Tr. Nauchn. Sess. Leningr. Nauchno. - Issled.
* Inst. Gig. Tr. Profzabol., pp. 247-251.
F020 43859
EOR
F002 60
F010 5.2.1
F004 3
F005 RM
F006 Data from these additional sources were not summarized because it was not
* the species of choice.
F007 Data from these additional sources were not summarized because it was not
* the species of choice.
F020 43856
EOR
F002 60
F010 5.2.2
F004 1
F005 ME
F006 OECD Guideline No. 405 and EC Guideline 92/69/E.E.C., B5.
F007 OECD Guideline No. 405 and EC Guideline 92/69/E.E.C., B5.
F020 43878
EOR
F002 60
F010 5.2.2
F004 1
F005 RE
F006 ELF Atochem (1996). Laboratory study number 14351 TSG (cited in OECD
* SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 ELF Atochem (1996). Laboratory study number 14351 TSG (cited in OECD
* SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43880
EOR
F002 60
F010 5.2.2
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43879
EOR

F002 60
F010 5.2.2
F004 1
F005 RS
F006 The test material was not irritating to the New Zealand white rabbit eye.
F007 The test material was not irritating to the New Zealand white rabbit eye.
F020 43881
EOR
F002 60
F010 5.2.2
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
F020 43877
EOR
F002 60
F010 5.2.2
F004 2
F005 RE
F006 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS000937).
F007 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS000937).
F020 43883
EOR
F002 60
F010 5.2.2
F004 2
F005 RM
F006 Data from this additional source was not summarized because the study
* design was not adequate.
F007 Data from this additional source was not summarized because the study
* design was not adequate.
F020 43882
EOR
F002 60
F010 5.2.2
F004 3
F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F007 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F020 43886
EOR
F002 60
F010 5.2.2
F004 3
F005 RE
F006 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche OTS0545441).
F007 Monsanto (1974). Younger Laboratories, Inc. Report No. Y-74-61 (TSCA
* Fiche OTS0545441).
F020 43887.
EOR
F002 60

F010 5.2.2
F004 3
F005 RM
F006 Data from these additional sources were not summarized because
* insufficient study information was available.
F007 Data from these additional sources were not summarized because
* insufficient study information was available.
F020 43885
EOR
F002 60
F010 5.3
F004 1
F005 ME
F006 OECD Guideline No. 406 and EC Guideline 92/69/E.E.C., B6.
F007 OECD Guideline No. 406 and EC Guideline 92/69/E.E.C., B6.
F020 43864
EOR
F002 60
F010 5.3
F004 1
F005 RE
F006 ELF Atochem (1996). Laboratory study number 14352 TSG (cited in OECD
* SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F007 ELF Atochem (1996). Laboratory study number 14352 TSG (cited in OECD
* SIDS Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43863
EOR
F002 60
F010 5.3
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43861
EOR
F002 60
F010 5.3
F004 1
F005 RS
F006 The test substance was not sensitizing to Duncan Hartley guinea pigs.
F007 The test substance was not sensitizing to Duncan Hartley guinea pigs.
F020 43862
EOR
F002 60
F010 5.3
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.2%
F020 43860
EOR
F002 60
F010 5.3

F004 2
F005 ME
F006 Patch testing was performed on 173 humans as described in Kanerva et al.,
* 1988, 1997; Estlander, 1990; and Jolanki, 1991, with 2 days occlusion and
* 3 readings (usually on Days 2, 3, and 4-6). Allergic reactions were
* scored according to ICD
F007 Patch testing was performed on 173 humans as described in Kanerva et al.,
* 1988, 1997; Estlander, 1990; and Jolanki, 1991, with 2 days occlusion and
* 3 readings (usually on Days 2, 3, and 4-6). Allergic reactions were
* scored according to ICDRG recommendations, +, ++, and +++ reactions being
* considered allergic. Irritant reactions were also recorded. Reactions
* scored as doubtful (?+) or irritant (IR) were classified as irritant.
F020 43866
EOR
F002 60
F010 5.3
F004 2
F005 RE
F006 Estlander, T. (1990). *Acta Dermato-venereologica*, Suppl. 155:1-84.
F007 Estlander, T. (1990). *Acta Dermato-venereologica*, Suppl. 155:1-84.
F020 43870
EOR
F002 60
F010 5.3
F004 2
F005 RE
F006 Jolanki, R. (1991). *Acta Dermato-venereologica*, Suppl. 155:1-80.
F007 Jolanki, R. (1991). *Acta Dermato-venereologica*, Suppl. 155:1-80.
F020 43871
EOR
F002 60
F010 5.3
F004 2
F005 RE
F006 Kanerva, L. et al. (1988). *Int. Arch. Occup. Environ. Health*, 60:89-94.
F007 Kanerva, L. et al. (1988). *Int. Arch. Occup. Environ. Health*, 60:89-94.
F020 43869
EOR
F002 60
F010 5.3
F004 2
F005 RE
F006 Kanerva; L. et al. (1997). *Contact Dermatitis*, 37:301-302.
F007 Kanerva, L. et al. (1997). *Contact Dermatitis*, 37:301-302.
F020 43868
EOR
F002 60
F010 5.3
F004 2
F005 RM
F006 Reliability: Not assignable because limited study information was
* available.
F007 Reliability: Not assignable because limited study information was
* available.
F020 43867
EOR
F002 60

F010 5.3
F004 2
F005 RS
F006 At a dose of 1.0% (w/w), the test substance produced no allergic
* reactions. It produced an irritant reaction in 1 of 173 humans (0.6%).
F007 At a dose of 1.0% (w/w), the test substance produced no allergic
* reactions. It produced an irritant reaction in 1 of 173 humans (0.6%).
F020 43872
EOR
F002 60
F010 5.3
F004 2
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F020 43865
EOR
F002 60
F010 5.3
F004 3
F005 RE
F006 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. (1962). Unpublished Data, Haskell Laboratory Report No. 88-62
* (also cited in TSCA Fiche OTS0000937).
F020 43874
EOR
F002 60
F010 5.3
F004 3
F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F007 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F020 43875
EOR
F002 60
F010 5.3
F004 3
F005 RE
F006 Kanerva, L. et al. (1999). *Acta Dermato-Venereologica*, 79(4):296-300
* (BIOSIS/99/24592).
F007 Kanerva, L. et al. (1999). *Acta Dermato-Venereologica*, 79(4):296-300
* (BIOSIS/99/24592).
F020 43876
EOR
F002 60
F010 5.3
F004 3
F005 RM
F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.

F020 43873
EOR
F002 60
F010 5.4
F004 1
F005 RE
F006 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
* Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
* Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed
F007 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
* Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
* Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F020 43891
EOR
F002 60
F010 5.4
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.

F020 43890
EOR
F002 60
F010 5.4
F004 1
F005 RS
F006 Males: Temporary salivation was induced at equal to or greater than 10
* mg/kg. Decrease in body weight gain and food consumption was observed at
* 50 mg/kg/day. In the kidneys, absolute and relative weight was increased
* in all treatment gro
F007 Males: Temporary salivation was induced at equal to or greater than 10
* mg/kg. Decrease in body weight gain and food consumption was observed at
* 50 mg/kg/day. In the kidneys, absolute and relative weight was increased
* in all treatment groups, and in equal to or greater than 10 mg/kg/day
* groups, respectively. In addition, increases in eosinophilic bodies and
* basophilic changes of the renal tubular epithelial cells were observed in
* all treatment groups and granular casts in the lower nephrons were
* observed at equal to or greater than 10 mg/kg/day. As these pathological
* changes were observed only in males, accumulation of
* alpha2u-macroglobulin was suspected as a cause of male specific renal
* toxicity. Liver weights were significantly increased by 14 and 66% for
* absolute weight (14 and 74% for relative weight) in the 10 and 50
* mg/kg/day groups, respectively. Centrilobular hypertrophy of hepatocytes
* was observed in the 10 and 50 mg/kg/day groups (+/-: 4 in 13, +:9 in 13
* for 10 mg/kg, ++: 13 in 13 for 50 mg/kg, compared to no changes in the 0
* and 2 mg/kg groups).

**
** In blood analysis, there were several changes at 50 mg/kg, such as an
* elevation of platelet and white blood cell counts, increases in total
* protein, albumin, total cholesterol, Ca, and inorganic phosphorus, and
* decreases in the A/G ratio and Cl concentration.
**
** Females: One animal died on postpartum day 3 at 50 mg/kg/day. Decrease

* in body weight gain and food consumption was observed at equal to or
* greater than 10 mg/kg/day. In the kidneys, absolute and relative weights
* were increased at 50 mg/kg/day. Liver weights were significantly
* increased by 43% for absolute weight (51% for relative weight) only at 50
* mg/kg/day. However, centrilobular hypertrophy of hepatocytes was
* observed in the 10 and 50 mg/kg/day groups (+/-: 6 in 13, +: 1 in 13 at
* 10 1 in 13, +: 11 in 13, ++: 1 in 13 at 50 mg/kg/day,
* compared to no changes at 0 and 2 mg/kg/day).

**

** The NOAEL for males and females was 2 mg/kg/day, and the LOAEL for males
* and females was 10 mg/kg/day.

F020 43889

EOR

F002 60

F010 5.4

F004 1

F005 TS

F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity, 99.9%

F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity, 99.9%

F020 43888

EOR

F002 60

F010 5.4

F004 2

F005 ME

F006 The test substance was incorporated into a stock diet and fed to dogs 7
* days/week. Initially, the body weight of each dog was determined and
* recorded. Thereafter, weighings were conducted weekly for the duration
* of the test. Food **consump**

F007 The test substance was incorporated into a stock diet and fed to dogs 7
* days/week. Initially, the body weight of each dog was determined and
* recorded. Thereafter, weighings were conducted weekly for the duration
* of the test. Food consumption was recorded. Dogs were examined daily
* for clinical signs or symptoms indicative of systemic toxicity. Five
* hematologic, 7 blood chemistry, and 7 urinalysis parameters were measured
* just prior to the inception of the study, after 42 days, and/or after 85
* days for the 0, 50, 150, and 300 ppm groups. The parameters were
* measured in dogs at 1000 ppm just prior to the inception of the study,
* and on all surviving dogs after 28 days. At the conclusion of the study,
* animals were sacrificed and given a complete gross necropsy. Nine organ
* weights were collected, and representative specimens of approximately 35
* organs/tissues were saved for histopathologic examination.

F020 43900

EOR

F002 60

F010 5.4

F004 2

F005 RE

F006 Monsanto Co. (1974). Industrial Bio-Test Laboratories, Inc. Report, BTL
* No. 73-54, IBT No. 651-04494 (TSCA Fiche 0180545629).

F007 Monsanto Co. (1974). Industrial Bio-Test Laboratories, Inc. Report, BTL
* No. 73-54, IBT No. 651-04494 (TSCA Fiche 0TS0545629).

F020 43907

EOR

F002 60

F010 5.4

F004 2

F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43906
EOR
F002 60
F010 5.4
F004 2
F005 RS
F006 After the death of 1 animal, the surviving 1000 ppm group animals were
* sacrificed in extremis on Day 28 of the investigation. These animals
* exhibited body weight losses or no body weight gain, and a reduction in
* the amount of food consumed
F007 After the death of 1 animal, the surviving 1000 ppm group animals were
* sacrificed in extremis on Day 28 of the investigation. These animals
* exhibited body weight losses or no body weight gain, and a reduction in
* the amount of food consumed during the 4 weeks. The animals were
* asthenic after 3 weeks on test.
**
** The results of the blood chemistry studies conducted on samples collected
* from the 1000 ppm animals just prior to sacrifice revealed significant
* increases in serum alkaline phosphatase, serum glutamic-pyruvic
* transaminase, and serum glutamic-oxalacetic transaminase activities. The
* results of the hematologic studies and urinalyses conducted on samples
* obtained from the 1000 ppm animals revealed no unusual findings. The
* organ weight and ratio data revealed significant increases in liver and
* kidney to body weight ratios. Histopathologic examination of a series of
* tissues from the animals fed 1000 ppm revealed morphologic changes in the
* liver sections.
**
** No deaths occurred in the 0, 50, 150, or 300 ppm groups. No test
* substance related findings in body weight/gain, food consumption, or
* clinical signs were observed at 0, 50, 150, or 300 ppm.
**
** The 300 ppm group animals exhibited an increase in serum alkaline
* phosphatase activity. The females fed 300 ppm exhibited a slight
* increase in blood thiocyanate. No test substance-related findings were
* observed in hematologic or urinalysis parameters at 300 ppm, nor were
* there any test substance-related findings in hematologic, blood
* chemistry, or urinalysis parameters at 50 or 150 ppm.
**
** Marginal increases in liver to body weight ratios were observed at 300
* ppm, and in 1 male at 150 ppm. No other organ weight effects were
* observed. Histopathologic examination revealed test substance-related
* morphologic changes in the liver of some animals at 150 and 300 ppm. The
* number of animals with this finding was greater at 300 ppm, but the
* finding was regarded to be an adaptive response of the liver. No
* histopathologic findings were observed at 50 ppm.
F020 43902
EOR
F002 60
F010 5.4
F004 2
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified

F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F020 43899
EOR
F002 60
F010 5.4
F004 3
F005 ME
F006 Groups of rats were exposed head-only. Five rats/group were randomly
* selected for sacrifice after the 10th exposure, while the remaining 5
* rats/group were sacrificed after a 14-day recovery-observation period.
* Rats were weighed and observ
F007 Groups of rats were exposed head-only. Five rats/group were randomly
* selected for sacrifice after the 10th exposure, while the remaining 5
* rats/group were sacrificed after a 14-day recovery-observation period.
* Rats were weighed and observed daily (except weekends) throughout the
* exposure and recovery period.
**
** Dust atmospheres of the test substance were generated and atmospheric
* concentration of test substance was determined from weight gain of the
* filters.
**
** An overnight (16 hour) urine specimen was collected from 10 rats in
* groups exposed to 0 and 10.0 mg/m3 and 9 rats exposed to 80.0 mg/m3 after
* the 9th exposure. Blood was taken from these rats after the 10th
* exposure, then 5 rats from the groups exposed to 0 and 10.0 mg/m3 and 4
* rats exposed to 80.0 mg/m3 were sacrificed for pathological examination.
* Fourteen days later (recovery), blood and urine samples were collected
* from the rats remaining in each group. Approximately 12 hematologic
* parameters were measured or calculated.
**
** After the 10th exposure, 5 rats from each group were sacrificed for gross
* and histopathological examination. Remaining rats were sacrificed on the
* 14th day of recovery for identical follow-up examination. Seven organs
* were weighed and 22 tissues/organs were saved for histologic evaluation.
F020 43913
EOR
F002 60
F010 5.4
F004 3
F005 RE
F006 DuPont Co. ((1981). Unpublished Data, Haskell Laboratory Report No. 40-81
* (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. ((1981). Unpublished Data, Haskell Laboratory Report No. 40-81
* (also cited in TSCA Fiche OTS0000937).
F020 43920
EOR
F002 60
F010 5.4
F004 3
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43917
EOR
F002 60

F010 5.4
F004 3
F005 RS
F006 The mean TWA concentration was 9.80 and 79.5 mg/m3 for the 10.0 and 80.0
* mg/m3 design concentrations. Mass median diameter ranged from 8.0-11.5
* microns at 80.0 mg/m3.
**
** One rat was sacrificed in extremis, following the 4th exposure to 80
F007 The mean TWA concentration was 9.80 and 79.5 mg/m3 for the 10.0 and 80.0
* mg/m3 design concentrations. Mass median diameter ranged from 8.0-11.5
* microns at 80.0 mg/m3.
**
** One rat was sacrificed in extremis, following the 4th exposure to 80
* mg/m3. This rat exhibited lung noise, poor righting reflex, stained fur,
* labored breathing, and sluggishness prior to sacrifice. Pathological
* examination could not explain the cause of death, however, it was not
* attributed solely to test substance administration.
**
** When compared with controls, rats exposed to 10 mg/m3 showed a normal
* rate of weight gain during both the exposure and recovery periods. Mean
* body weight gain of rats exposed to 80.0 mg/m3 was significantly reduced
* on days 2-4 of the exposure period. For the remainder of the test
* period, these rats exhibited a normal rate of weight gain. No test
* substance-related clinical signs were noted.
**
** All exposed rats tended to have higher serum total proteins than the
* unexposed controls after 10 exposures. Urine osmolality was lower in
* rats exposed to 80.0 mg/m3. Following the 14-day recovery period, no
* effect was observed in rats at 10.0 mg/m3, but rats at 80.0 mg/m3
* continued to have higher serum total proteins.
**
** No test substance-related pathological lesions occurred in rats exposed
* to 10.0 mg/m3. The 80.0 mg/m3 rats sacrificed after the 10th exposure
* exhibited a compound-related liver effect, increased cytoplasmic
* basophilia of hepatocytes. However, this liver effect was not detected
* in these rats following a 14-day recovery period. The mean relative
* liver-to-body weight ratios of exposed rats were significantly higher
* than the control group after exposure 10. This effect was no longer
* evident after a 14-day recovery period.
F020 43914
EOR
F002 60
F010 5.4
F004 3
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64), purity 99%
F007 Propanenitrile, 2,2'-azobis(2-methyl- (Vazo(R) 64), purity 99%
F020 43912
EOR
F002 60
F010 5.4
F004 4
F005 RE
F006 Boyland, E. and S. Sargent (1951). Br. J. Cancer, 5:433-439.
F007 Boyland, E. and S. Sargent (1951). Br. J. Cancer, 5:433-439.
F020 43939
EOR

F002 60
F010 5.4
F004 4
F005 RE
F006 DuPont Co. (1947). Unpublished Data, Haskell Laboratory Report No. 25-47.
F007 DuPont Co. (1947). Unpublished Data, Haskell Laboratory Report No. 25-47.
F020 43923
EOR
F002 60
F010 5.4
F004 4
F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F007 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F020 43925
EOR
F002 60
F010 5.4
F004 4
F005 RE
F006 Motoc, F. et al. (1971). Arch. Mal. Prof. Med. Trav. Secur. Soc.,
* 32(10-11):653 658 (CA76:122561y).
F007 Motoc, F. et al. (1971). Arch. Mal. Prof. Med. Trav. Secur. Soc.,
* 32(10-11):653 658 (CA76:122561y).
F020 43926
EOR
F002 60
F010 5.4
F004 4
F005 RE
F006 Preussmann, R. et al. (1969). Ann. N.Y. Acad. Sci., 163(2):697-716
* (CA73:12854b).
F007 Preussmann, R. et al. (1969). Ann. N.Y. Acad. Sci., 163(2):697-716
* (CA73:12854b).
F020 43929
EOR
F002 60
F010 5.4
F004 4
F005 RM
F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F020 43922
EOR
F002 60
F010 5.5
F004 1
F005 ME
F006 Guidelines for Screening Mutagenicity Testing of Chemicals (Japan) and
* OECD Guideline No. 471 and 472. The positive control for tests with
* metabolic activation was 2-aminoanthracene (5 strains). Positive

* controls for tests without metabol

F007 Guidelines for Screening Mutagenicity Testing of Chemicals (Japan) and
 * OECD Guideline No. 471 and 472. The positive control for tests with
 * metabolic activation was 2-aminoanthracene (5 strains). Positive
 * controls for tests without metabolic activation included sodium azide
 * (TA1535), 9-aminoacridine (TA1537 and TA97), and
 * 2-(2-furyl)-3-(5-nitro-2-furyl)acrylamide (TA100, TA98, and WP2).
 * Metabolic activation was phenobarbital and 5,6-benzoflavone induced rat
 * liver S9.

F020 43969
 EOR
 F002 60
 F010 5.5
 F004 1
 F005 RE

F006 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
 * Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
 * Dossier for 2,2'-Azobis(2-methylpropionitrile),
 * <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed

F007 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
 * Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
 * Dossier for 2,2'-Azobis(2-methylpropionitrile),
 * <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F020 43987
 EOR
 F002 60
 F010 5.5
 F004 1
 F005 RM

F006 Reliability: High because a scientifically defensible or guideline method
 * was used.

F007 Reliability: High because a scientifically defensible or guideline method
 * was used.

F020 43971
 EOR
 F002 60
 F010 5.5
 F004 1
 F005 RS

F006 Toxicity was not observed when tested with or without exogenous metabolic
 * activation. Precipitation was observed at concentrations of 1250 and
 * 2500 ug/plate when tested with and without metabolic activation,
 * respectively. The test substan

F007 Toxicity was not observed when tested with or without exogenous metabolic
 * activation. Precipitation was observed at concentrations of 1250 and
 * 2500 ug/plate when tested with and without metabolic activation,
 * respectively. The test substance was negative for induction of mutations
 * when tested with and without metabolic activation.

F020 43970
 EOR
 F002 60
 F010 5.5
 F004 1
 F005 TS

F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
 F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
 F020 43968

EOR
F002 60
F010 5.5
F004 2
F005 RE
F006 DuPont Co. (1976). Unpublished Data, Haskell Laboratory Report No. 89-76
* (also cited in TSCA Fiche OTS0000937).
F007 DuPont Co. (1976). Unpublished Data, Haskell Laboratory Report No. 89-76
* (also cited in TSCA Fiche OTS0000937).
F020 43973
EOR
F002 60
F010 5.5
F004 2
F005 RE
F006 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F007 Eastman-Kodak Co. (n.d.). Toxicity and Health Hazard Summary (TSCA Fiche
* OTS0001156).
F020 43974
EOR
F002 60
F010 5.5
F004 2
F005 RE
F006 Eder, E. et al. (1989). Naunyn-Schmiedeberg's Arch. Pharmacol.,
* **339(Suppl.):R26** (Abstract 102).
F007 Eder, E. et al. (1989). Naunyn-Schmiedeberg's Arch. Pharmacol.,
* **339(Suppl.):R26** (Abstract 102).
F020 43976
EOR
F002 60
F010 5.5
F004 2
F005 RE
F006 Eder, E. et al. (1989). Toxicol. Lett., **48:225-234**.
F007 Eder, E. et al. (1989). Toxicol. Lett., **48:225-234**.
F020 43977
EOR
F002 60
F010 5.5
F004 2
F005 RE
F006 Takenaka, S. et al. (1993). J. Toxicol. Sci., **18(4):418** (Abstract P-223).
F007 Takenaka, S. et al. (1993). J. Toxicol. Sci., **18(4):418** (Abstract P-223).
F020 43975
EOR
F002 60
F010 5.5
F004 2
F005 RM
F006 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.
F007 Data from these additional sources support the study results summarized
* above. These studies were not chosen for detailed summarization because
* the data were not substantially additive to the database.

F020 43972
EOR
F002 60
F010 5.5
F004 3
F005 ME .
F006 Guide for Screening Mutagenicity Testing of Chemicals (Japan) and OECD
* Guideline No. 473. The short-term treatment was 6 hours, and the
* continuous treatment was 24 and 48 hours. The positive controls were
* cyclophosphamide and mitomycin fo
F007 Guide for Screening Mutagenicity Testing of Chemicals (Japan) and OECD
* Guideline No. 473. The short-term treatment was 6 hours, and the
* continuous treatment was 24 and 48 hours. The positive controls were
* cyclophosphamide and mitomycin for the tests with and without activation,
* respectively. Exogenous Metabolic Activation: With and without
* phenobarbital and 5,6-benzoflavone rat liver induced S9.
F020 43979
EOR
F002 60
F010 5.5
F004 3
F005 RE
F006 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
* Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
* Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed
F007 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
* Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
* Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43983
EOR
F002 60
F010 5.5
F004 3
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43982
EOR
F002 60
F010 5.5
F004 3
F005 RS
F006 Cytotoxicity was not observed. The test substance was negative for
* clastogenicity and polyploidy when tested both in the presence and
* absence of metabolic S9 activation.
F007 Cytotoxicity was not observed. The test substance was negative for
* clastogenicity and polyploidy when tested both in the presence and
* absence of metabolic S9 activation.
F020 43980
EOR
F002 60
F010 5.5
F004 3

F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
F020 43978
EOR
F002 60
F010 5.6
F004 1
F005 ME
F006 A micronucleus test was performed using groups of male mice orally
* administered 2 doses of the test substance.
F007 A micronucleus test was performed using groups of male mice orally
* administered 2 doses of the test substance.
F020 43994
EOR
F002 60
F010 5.6
F004 1
F005 RE
F006 Takenaka, S. et al. (1993). J. Toxicol. Sci., 18(4) :418 (Abstract P-223).
F007 Takenaka, S. et al. (1993). J. Toxicol. Sci., 18(4):418 (Abstract P-223).
F020 43997
EOR
F002 60
F010 5.6
F004 1
F005 RM
F006 Reliability: Not assignable because limited study information was
* available.
F007 Reliability: Not assignable because limited study information was
* available.
F020 43996
EOR
F002 60
F010 5.6
F004 1
F005 RS
F006 At both 24 and 48 hours after treatment, the test substance did not
* produce a significant increase in the frequency of micronucleated
* polychromatic erythrocytes in the bone marrow of the treated mice.
F007 At both 24 and 48 hours after treatment, the test substance did not
* produce a significant increase in the frequency of micronucleated
* polychromatic erythrocytes in the bone marrow of the treated mice.
F020 43995
EOR
F002 60
F010 5.6
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity not specified
F020 43992
EOR
F002 60
F010 5.8.2
F004 1
F005 RE

F006 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
 * Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
 * Dossier for 2,2'-Azobis(2-methylpropionitrile);
 * <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed

F007 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
 * Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
 * Dossier for 2,2'-Azobis(2-methylpropionitrile),
 * <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).

F020 43950
 EOR
 F002 60
 F010 5.8.2
 F004 1
 F005 RM

F006 Reliability: High because a scientifically defensible or guideline method
 * was used.

F007 Reliability: High because a scientifically defensible or guideline method
 * was used.

F020 43948
 EOR
 F002 60
 F010 5.8.2
 F004 1
 F005 RS

F006 There were no adverse effects of the test substance on copulation and
 * fertility, duration of pregnancy, gestation index, or parturition of all
 * treated groups. Three of 12 dams at 50 mg/kg showed difficulty of
 * nursing, and 2 of them let al

F007 There were no adverse effects of the test substance on copulation and
 * fertility, duration of pregnancy, gestation index, or parturition of all
 * treated groups. Three of 12 dams at 50 mg/kg showed difficulty of
 * nursing, and 2 of them let all their offspring die within the first 4
 * days after birth. The test substance had no adverse effects on
 * viability, sex ratio, or body weight gain of pups. However, viability of
 * newborns at birth and body weight of nurslings on postnatal day 4 was
 * lower than the control level at 50 mg/kg/day. These changes were
 * considered to be caused by maternal toxicity. There were no
 * morphological abnormalities in pups of any treatment group.

**
 **
 * The NOAEL for the parental generation was 10 mg/kg/day. The NOAEL for
 the F1 offspring was 50 mg/kg/day.

F020 43943
 EOR
 F002 60
 F010 5.8.2
 F004 1
 F005 TS

F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
 F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
 F020 43941
 EOR
 F002 60
 F010 5.8.3
 F004 1
 F005 ME

F006 OECD Combined Repeat Dose and Reproductive/Developmental Toxicity
 * Screening Test Guideline 422

F007 OECD Combined Repeat Dose and Reproductive/Developmental Toxicity
* Screening Test Guideline 422
F020 43957
EOR
F002 60
F010 5.8.3
F004 1
F005 RE
F006 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
* Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
* Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed
F007 MHW, Japan (1997). Ministry of Health and Welfare: Japan, Toxicity
* Testing Reports of Environmental Chemicals, 5:65 (cited in OECD SIDS
* Dossier for 2,2'-Azobis(2-methylpropionitrile),
* <http://www1.oecd.org/ehs/sidstable/index.htm>, accessed January 28, 2002).
F020 43961
EOR
F002 60
F010 5.8.3
F004 1
F005 RM
F006 Reliability: High because a scientifically defensible or guideline method
* was used.
F007 Reliability: High because a scientifically defensible or guideline method
* was used.
F020 43960
EOR
F002 60
F010 5.8.3
F004 1
F005 RS
F006 There were no adverse effects of the test substance on copulation and
* fertility, duration of pregnancy, gestation index, or parturition of all
* treated groups. Three of 12 dams at 50 mg/kg showed difficulty of
* nursing, and 2 of them let al
F007 There were no adverse effects of the test substance on copulation and
* fertility, duration of pregnancy, gestation index, or parturition of all
* treated groups. Three of 12 dams at 50 mg/kg showed difficulty of
* nursing, and 2 of them let all their offspring die within the first 4
* days after birth. The test substance had no adverse effects on
* viability, sex ratio, or body weight gain of pups. However, viability of
* newborns at birth and body weight of nurslings on postnatal day 4 was
* lower than the control level at 50 mg/kg/day. These changes were
* considered to be caused by maternal toxicity. There were no
* morphological abnormalities in pups of any treatment group.
**
* The NOAEL for the parental generation was 10 mg/kg/day. The NOAEL for
* the F1 offspring was 50 mg/kg/day.
F020 43958
EOR
F002 60
F010 5.8.3
F004 1
F005 TS
F006 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%
F007 Propanenitrile, 2,2'-azobis(2-methyl-, purity 99.9%

F020 43956

EOB

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X

