7/31/03

MEMORANDUM

SUBJECT: **PCNB.** List A Reregistration Case 0128. PC Code 056502. **Product Chemistry Chapter for the Reregistration Eligibility Decision [RED] Document.** DP Barcode D**266923**.

FROM: K. Dockter, Chemist
Reregistration Branch 2
Health Effects Division [7509C]

THRU: Alan Nielsen, Branch Senior Scientist
Reregistration Branch 2
Health Effects Division [7509C]

TO: Diana Locke, Ph.D., Risk Assessor
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Attached is the RED document product chemistry chapter for PCNB [pentachloronitrobenzene]. The chapter was assembled by Dynamac Corporation under the supervision of RRB2,HED. The data assessment has undergone secondary and tertiary review and has been revised to reflect Agency policies. Several product chemistry data requirements remain outstanding.

Attachment: RED Document: Product Chemistry Considerations

cc: RF, Dockter, D. Locke, M. Sahafeyan, S. Tadayon, L. Chitlik.
RD\I RRB2 PCNB RED Team.
7509C:RRB2:Rm712N:57886:KD/kd
PCNB.RED [999R+D] = D266923.mem.

PENTACHLORONITROBENZENE (PCNB)

REREGISTRATION ELIGIBILITY DECISION:

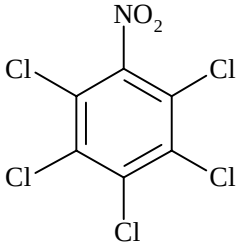
PRODUCT CHEMISTRY CONSIDERATIONS

PC Code 056502; Case No. 0128

DP Barcode D266923

DESCRIPTION OF CHEMICAL

PCNB [pentachloronitrobenzene] is a soil fungicide registered for use on beans, Brassica vegetables, cotton, garlic, peppers, peanuts, potatoes and tomatoes.



Empirical Formula:	$C_6Cl_5NO_2$
Molecular Weight:	295.3
CAS Registry No.:	82-68-8
PC Code:	056502

IDENTIFICATION OF ACTIVE INGREDIENT

PCNB is a white to off-white crystalline solid with a melting point of 141-146 C, density of 1.72 g/cc, octanol/water partition coefficient (log P_{ow}) of 5.0, and vapor pressure of 5 x 10^{-5} mm Hg at 20 C. PCNB is practically insoluble in water (0.44 mg/L at 20 C), and is soluble in ethanol (2 g/100 mL), dichloroethane (20% w/w), and toluene (50% w/w). PCNB is generally soluble in carbon disulfide, benzene, chloroform, ketones, and aromatic and chlorinated hydrocarbons.

MANUFACTURING-USE PRODUCTS

According to a search of the Reference Files System (REFS) conducted 2/8/01, there are seven manufacturing-use products (MPs) registered under PC Code 056502; these are presented in Table 1. [Note, these products were confirmed to still be active as of 8/23/02. No new actions are pending; personal communication M. Waller 8/23/02] The seven registered PCNB MPs are

subject to a reregistration eligibility decision.

Table 1. Registered PCNB manufacturing-use products.

Formulation	EPA Reg. No.	Registrant
99.7% T	400-401	Uniroyal Chemical Company, Inc.
96.2% T	400-504 [1]	
96% T	400-459 [2]	
90% FI	400-414	
95% T	5481-197	Amvac Chemical Corporation
80% FI	5481-438	
80% FI	7501-45	Gustafson, Inc.

[1] Repackaged from an EPA-registered product; registered 9/00.
[2] Transferred from Quimica Organica de Mexico (EPA Reg. No. 10820-1) on 8/12/94.

REGULATORY BACKGROUND

The PCNB Reregistration Standard was issued 6/30/86 and required additional product chemistry data concerning PCNB. The PCNB Guidance Document dated 1/87 required that all new product chemistry data be submitted for the reregistration of PCNB because new requirements had been introduced and previously submitted data needed to be updated. Data submitted in response to the Guidance Document for the MPs were evaluated in Agency reviews and in the PCNB Reregistration Standard Update dated 6/19/90 with regard to adequacy in fulfilling product chemistry requirements. The PCNB Update summarized the available product chemistry database and required additional data for the Uniroyal, Amvac, and Gustafson PCNB MPs.

Additional data were required for PCNB concerning potential impurities of concern, including chlorinated dibenzofurans/dibenzodioxins and hexachlorobenzene (HCB). The available dioxin data indicate that dioxins are not expected to form in technical PCNB at levels at or above the EPA-specified Limits of Quantitation [LOQs]. In conjunction with an Rebuttable Presumption Against Registration [RPAR] Termination Notice dated 3/23/82, the Guidance Document required that the registrants submit annual progress reports summarizing efforts to implement measures to reduce levels of HCB in the TGAI to <0.1%. Subsequent to the Guidance Document, the manufacturing processes for the technical PCNB products were refined to maintain HCB levels at less than 0.1%; quality control measures were also initiated to monitor HCB levels.

The current status of the product chemistry data requirements for the PCNB MPs is presented in the attached data summary tables. Refer to these tables for a listing of the outstanding product chemistry data requirements.

CONCLUSIONS

Most pertinent product chemistry data requirements have been satisfied for the Uniroyal 99.7% and Amvac 95% T/TGAIs. Additional data are required concerning UV/visible absorption (OPPTS 830.7050) for both technical products, and additional data are required for the Amvac 95% T only concerning preliminary analysis (OPPTS 830.1700). The Uniroyal 96.2% T (EPA Reg. No. 400-504) is repackaged from an EPA-registered product; therefore, all product chemistry data requirements for this product will be satisfied by data for the source product. Additional data are required for the Uniroyal 96% T concerning description of the production process, oxidation/reduction, explodability, storage stability, corrosion characteristics, and UV/visible absorption (OPPTS 830.1620, 6314, 6316, 6317, 6320, and 7050). TGAI data requirements for the Uniroyal, Amvac, and Gustafson FIs will be fulfilled by data for the technical source products; however, the following product-specific data are required: (i) for the Uniroyal 90% FI, all product-specific data are outstanding except for description of materials used to produce the product and the formulation process and discussion of formation of impurities (OPPTS 830.1600, 1650, and 1670); (ii) for the Amvac 80% FI, data concerning certified limits, color, physical state, odor, and storage stability (OPPTS 830.6302, 6303, 6304, and 6317); and (iii) for the Gustafson 80% FI, data concerning enforcement methods, color, physical state, odor, oxidation/reduction, explodability, storage stability, corrosion characteristics, pH, and density (OPPTS 830.1800, 6302, 6303, 6304, 6314, 6316, 6317, 6320, 7000, and 7300). Provided that the registrants submit the data required in the attached data summary tables for the PCNB T/TGAIs, and either certify that the suppliers of beginning materials and the manufacturing processes have not changed since the last comprehensive product chemistry reviews or submit complete updated product chemistry data packages, the Agency has no objections to the reregistration of PCNB with respect to product chemistry data requirements.

Case No. 0128
PC Code 056502

Case Name: PCNB
Registrant: Uniroyal Chemical Company, Inc.
Product(s): 99.7% T (EPA Reg. No. 400-401)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	Y	**CSF 4/19/88**, 41355401 [3], 42890401 [4], CSF 12/22/94 [5]
830.1600	Description of materials used to produce the product	Y	41355401 [3], 42890401 [4]
830.1620	Description of production process	Y	41355401 [3], 42890401 [4]
830.1670	Discussion of formation of impurities	Y	41355401 [3]
830.1700	Preliminary analysis	Y	41355402 [3], 42890401 [4]
830.1750	Certified limits	Y	**CSF 4/19/88**, 41355402 [3], 42890402 [4], CSF 12/22/94 [5]
830.1800	Enforcement analytical method	Y	**40506101**, 41355402 [3], 42890403 [4]
830.6302	Color	Y	41355403 [3]
830.6303	Physical state	Y	41355403 [3]
830.6304	Odor	Y	41355403 [3]
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	Y	41355403 [3]
830.6314	Oxidation/reduction: chemical incompatibility	Y	41355403 [3]
830.6315	Flammability	N/A [6]	41355403 [3]
830.6316	Explodability	Y	41355403 [3]
830.6317	Storage stability	Y	41355403 [3]
830.6319	Miscibility	N/A [6]	
830.6320	Corrosion characteristics	Y	41355403 [3]
830.7000	pH	Y	41355403 [3]
830.7050	UV/Visible absorption	N [7]	
830.7100	Viscosity	N/A [6]	
830.7200	Melting point/melting range	Y	41355403 [3]
830.7220	Boiling point/boiling range	N/A [6]	
830.7300	Density/relative density/bulk density	Y	41355403 [3], 42890404 [4]
830.7370	Dissociation constants in water	N/A [8]	41355403 [3]
830.7550	Partition coefficient (n-octanol/water), shake flask method	Y	41355403 [3], 42890404 [4], 40609603 [4,9]
830.7840	Water solubility: column elution method; shake flask method	Y	41355403 [3], 42890404 [4]
830.7950	Vapor pressure	Y	41355403 [3], 42890404 [4]

[1] Y = Yes; N = No; N/A = Not Applicable. We note that the data cited above were initially submitted in support of an alternate formulation source; based on the current CSF, this source is now the basic and only source product for the 99.7% T.

[2] **Bolded** references were reviewed in the PCNB Reregistration Standard Update dated 6/19/90; and all other references were reviewed as noted.

[3] DEB No. 6290, 2/15/90, S. Funk. We note that although Amvac was identified as the registrant in the review document, the data reviewed pertain to the Uniroyal registration.

[4] RD Memorandum D194583, 9/16/93, A. Smith.

[5] RD Memorandum D239579, 10/27/97, A. Smith reviewed the label claim in connection with the CSF; the CSF dated 12/22/94 was obtained from the product jacket.

[6] Data are not required because the TGAI/MP is a solid at room temperature.

[7] The OPPTS Series 830, Product Properties Test Guidelines require data pertaining to UV/visible absorption for the PAI.

[8] Data are not required because PCNB does not dissociate in water.

[9] RCB No. 3880, 8/19/88, N. Gray.

Case No. 0128
PC Code 056502

Case Name: PCNB
Registrant: Uniroyal Chemical Company, Inc.
Product(s): 96.2% T (EPA Reg. No. 400-504)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	Y [3]	CSF 7/20/00
830.1600	Description of materials used to produce the product	N/A	
830.1620	Description of production process	N/A	
830.1670	Discussion of formation of impurities	N/A	
830.1700	Preliminary analysis	N/A	
830.1750	Certified limits	Y [3]	CSF 7/20/00
830.1800	Enforcement analytical method	N/A	
830.6302	Color	N/A	
830.6303	Physical state	N/A	
830.6304	Odor	N/A	
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	N/A	
830.6314	Oxidation/reduction: chemical incompatibility	N/A	
830.6315	Flammability	N/A	
830.6316	Explodability	N/A	
830.6317	Storage stability	N/A	
830.6319	Miscibility	N/A	
830.6320	Corrosion characteristics	N/A	
830.7000	pH	N/A	
830.7050	UV/Visible absorption	N/A	
830.7100	Viscosity	N/A	
830.7200	Melting point/melting range	N/A	
830.7220	Boiling point/boiling range	N/A	
830.7300	Density/relative density/bulk density	N/A	
830.7370	Dissociation constants in water	N/A	
830.7550	Partition coefficient (n-octanol/water), shake flask method	N/A	
830.7840	Water solubility: column elution method; shake flask method	N/A	
830.7950	Vapor pressure	N/A	

[1] Y = Yes; N = No; N/A = Not Applicable. The 96.2% T is repackaged from an EPA-registered product; therefore, all product chemistry data requirements will be fulfilled by data for the source product.

[2] The CSF was obtained from the product jacket.

[3] We note that, although the product is 100% repackaged from an EPA-registered product, the nominal concentration and certified limits on the CSF should reflect the actual levels of the ai in the product.

Case No. 0128
PC Code 056502

Case Name: PCNB
Registrant: Uniroyal Chemical Company, Inc.
Product(s): 96% T (EPA Reg. No. 400-459)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	Y [3]	40609601, 40609602
830.1600	Description of materials used to produce the product	Y	40609601, 40609602
830.1620	Description of production process	N [4]	40609601, 40609602
830.1670	Discussion of formation of impurities	Y	40609601, 40609602
830.1700	Preliminary analysis	Y	40609601, 40609602
830.1750	Certified limits	Y [3]	40609601, 40609602
830.1800	Enforcement analytical method	Y	40609602
830.6302	Color	Y	40609603
830.6303	Physical state	Y	40609603
830.6304	Odor	Y	40609603
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	Y	40609603
830.6314	Oxidation/reduction: chemical incompatability	N	
830.6315	Flammability	N/A [5]	
830.6316	Explodability	N	
830.6317	Storage stability	N	
830.6319	Miscibility	N/A [5]	
830.6320	Corrosion characteristics	N	
830.7000	pH	Y	40609603
830.7050	UV/Visible absorption	N [6]	
830.7100	Viscosity	N/A [5]	
830.7200	Melting point/melting range	Y	40609603
830.7220	Boiling point/boiling range	N/A [5]	
830.7300	Density/relative density/bulk density	Y	40609603
830.7370	Dissociation constants in water	N/A [7]	40609603
830.7550	Partition coefficient (n-octanol/water), shake flask method	Y	40609603
830.7840	Water solubility: column elution method; shake flask method	Y	40609603
830.7950	Vapor pressure	Y	40609603

[1] Y = Yes; N = No; N/A = Not Applicable. The Uniroyal 96% T was transferred from Quimica Organica de Mexico (EPA Reg. No. 10820-1; 8/12/94), and the data cited above are based on data submitted by Quimica. The registrant must confirm that the manufacturing site and process have not changed since the product transfer; otherwise additional product chemistry data will be required.

[2] All references were reviewed under RCB No. 3880, 8/19/88, N. Gray.

[3] The current CSF dated 5/29/88 must be revised to reflect the product transfer, including the current registrant, registration number, and production site. In addition, we note that the label claim must be revised as required

under PR Notice 91-2 to reflect the nominal concentration of the active ingredient in the product (99.4%).

[4] Because a purer TGAI is being produced which contains ≤0.1% HCB, an explanation is required regarding any changes that have been made in the manufacturing process for crude PCNB since the original submissions (1983 and 1985).

[5] Data are not required because the TGAI/MP is a solid at room temperature.

[6] The OPPTS Series 830, Product Properties Test Guidelines require data pertaining to UV/visible absorption for the PAI.

[7] Data are not required because PCNB does not dissociate in water.

Case No. 0128
PC Code 056502

Case Name: PCNB
Registrant: Uniroyal Chemical Company, Inc.
Product(s): 90% FI (EPA Reg. No. 400-414)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	N [3]	**40287901**, **40506101**, CSF 11/29/89 [4]
830.1600	Description of materials used to produce the product	Y	**40287901**
830.1650	Description of formulation process	Y	**40287901**
830.1670	Discussion of formation of impurities	Y	**40287901**
830.1700	Preliminary analysis	N/A [5]	**40506101**
830.1750	Certified limits	N [3]	**40506101**, CSF 11/29/89 [4]
830.1800	Enforcement analytical method	N [6]	**40506101**
830.6302	Color	N	
830.6303	Physical state	N	
830.6304	Odor	N	
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	N/A [5]	
830.6314	Oxidation/reduction: chemical incompatibility	N	
830.6315	Flammability	N	
830.6316	Explodability	N	
830.6317	Storage stability	N	
830.6319	Miscibility	N	
830.6320	Corrosion characteristics	N	
830.7000	pH	N	
830.7050	UV/Visible absorption	N/A [5]	
830.7100	Viscosity	N	
830.7200	Melting point/melting range	N/A [5]	
830.7220	Boiling point/boiling range	N/A [5]	
830.7300	Density/relative density/bulk density	N	
830.7370	Dissociation constants in water	N/A [5]	
830.7550	Partition coefficient (n-octanol/water), shake flask method	N/A [5]	
830.7840	Water solubility: column elution method; shake flask method	N/A [5]	
830.7950	Vapor pressure	N/A [5]	

[1] Y = Yes; N = No; N/A = Not Applicable. The 90% FI is manufactured from EPA-registered products.

[2] **Bolded** references were reviewed in the PCNB Reregistration Standard Update dated 6/19/90; and all other references were reviewed as noted.

[3] The CSF must be revised to indicate that the product contains HCB at 0.05% or less. In addition the technical sources listed on the CSF must be amended because one of the products has been transferred.

[4] RD Letter dated 7/27/00, from M. Waller, RD, to B. Katzman.

[5] TGAI data requirements will be fulfilled by data for the technical source products.

[6] Supporting validation data generated using the 90% FI are required for the enforcement methods.

Case No. 0128
PC Code 056502

Case Name: PCNB
Registrant: Amvac Chemical Corporation
Product(s): 95% T (EPA Reg. No. 5481-197)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	Y [3]	**40668601**, **40668602** [4], CSF 2/12/98 [5]
830.1600	Description of materials used to produce the product	Y	**40668601**
830.1620	Description of production process	Y	**40668601**
830.1670	Discussion of formation of impurities	Y	**40668601**
830.1700	Preliminary analysis	N [6]	**40668602** [4]
830.1750	Certified limits	Y	**40668602** [4], CSF 2/12/98 [5]
830.1800	Enforcement analytical method	Y	**40668602** [4]
830.6302	Color	Y	**40668602**, 41795702 [4]
830.6303	Physical state	Y	**40668602**, 41795702 [4]
830.6304	Odor	Y	**40668602**, 41795702 [4]
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	Y	**40668602**, 41795702 [4]
830.6314	Oxidation/reduction: chemical incompatibility	N	
830.6315	Flammability	N/A[7]	
830.6316	Explodability	N	
830.6317	Storage stability	N	
830.6319	Miscibility	N/A [7]	
830.6320	Corrosion characteristics	N	
830.7000	pH	Y	**40668602**, 41795702 [4]
830.7050	UV/Visible absorption	N [8]	
830.7100	Viscosity	N/A[7]	
830.7200	Melting point/melting range	Y	**40668602**, 41795702 [4]
830.7220	Boiling point/boiling range	N/A [7]	
830.7300	Density/relative density/bulk density	Y	**40668602**, 41795702 [4]
830.7370	Dissociation constants in water	N/A [9]	**40668602**, 41795702 [4]
830.7550	Partition coefficient (n-octanol/water), shake flask method	Y	**40668602**, 41795702 [4]
830.7840	Water solubility: column elution method; shake flask method	Y	**40668602**, 41795702 [4]
830.7950	Vapor pressure	Y	**40668602**, 41795702 [4]

[1] Y = Yes; N = No; N/A = Not Applicable.

[2] **Bolded** references were reviewed in the PCNB Reregistration Standard Update dated 6/19/90; and all other references were reviewed as noted.

[3] The label claim reflects the lower certified limit. As required under PR Notice 91-2, the registrant must revise the label claim to reflect the nominal concentration of 96.2%.

[4] RD Memorandum, 8/21/91, H. Roldan. We note that this memorandum reviewed MRID 40668602, which was previously reviewed in the Update, and reviewed MRID 41795702 for physical/chemical characteristics.

[5] RD Memorandum D252703, 1/11/99, S. Mathur.

[6] Additional data are required reflecting analysis of five current batches of the PCNB TGAI to confirm the levels of two impurities in current production lots.

[7] Data are not required because the T/TGAI is a solid at room temperature.

[8] The OPPTS Series 830, Product Properties Test Guidelines require data pertaining to UV/visible absorption for the PAI.

[9] Data are not required because PCNB does not dissociate in water.

Case No. 0128
PC Code 056502

Case Name: PCNB
Registrant: Amvac Chemical Corporation
Product(s): 80% FI (EPA Reg. No. 5481-438)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	Y	42232401, CSF 1/10/92
830.1600	Description of materials used to produce the product	Y	42232401
830.1650	Description of formulation process	Y	42232401
830.1670	Discussion of formation of impurities	Y	42232401
830.1700	Preliminary analysis	N/A [3]	
830.1750	Certified limits	N [4]	42232401, CSF 1/10/92
830.1800	Enforcement analytical method	Y	42232401
830.6302	Color	N [5]	42232401
830.6303	Physical state	N [5]	42232401
830.6304	Odor	N [5]	42232401
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	N	
830.6314	Oxidation/reduction: chemical incompatibility	Y	42232401
830.6315	Flammability	N/A [6]	
830.6316	Explodability	Y	42232401
830.6317	Storage stability	N [5]	42232401
830.6319	Miscibility	N/A [6]	
830.6320	Corrosion characteristics	Y	42232401
830.7000	pH	Y	42232401
830.7050	UV/Visible absorption	N/A [3]	
830.7100	Viscosity	N/A [6]	
830.7200	Melting point/melting range	N/A [3]	
830.7220	Boiling point/boiling range	N/A [3]	
830.7300	Density/relative density/bulk density	N [5]	42232401
830.7370	Dissociation constants in water	N/A [3]	
830.7550	Partition coefficient (n-octanol/water), shake flask method	N/A [3]	
830.7840	Water solubility: column elution method; shake flask method	N/A [3]	
830.7950	Vapor pressure	N/A [3]	

[1] Y = Yes; N = No; N/A = Not Applicable. The 80% FI is manufactured from an EPA-registered product.

[2] All references were reviewed under RD Memorandum D1782827, dated 6/12/92, A. Smith.

[3] TGAI data requirements will be fulfilled by data for the technical source product.

[4] Lower certified limits must be proposed for the inert ingredients.

[5] Data referenced by the registrant were for the technical source product and do not apply to product-specific requirements for the FI.

[6] Data are not required because the MP is a solid at room temperature.

Case No. 0128
PC Code 056502

Case Name: PCNB
Registrant: Gustafson, Inc.
Product(s): 80% FI (EPA Reg. No. 7501-45)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	Y	42624201, Letter 9/14/93 [3], CSF 6/23/97 [4]
830.1600	Description of materials used to produce the product	Y	42624201, Letter 9/14/93 [3]
830.1650	Description of formulation process	Y	42624201, Letter 9/14/93 [3]
830.1670	Discussion of formation of impurities	Y	42624201
830.1700	Preliminary analysis	N/A [5]	
830.1750	Certified limits	Y	42624201, CSF 6/23/97 [4]
830.1800	Enforcement analytical method	N [6]	42624201, Letter 9/14/93 [3]
830.6302	Color	N	
830.6303	Physical state	N	
830.6304	Odor	N	
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	N/A [5]	
830.6314	Oxidation/reduction: chemical incompatibility	N	
830.6315	Flammability	N/A [7]	
830.6316	Explodability	N	
830.6317	Storage stability	N	
830.6319	Miscibility	N/A [7]	
830.6320	Corrosion characteristics	N	
830.7000	pH	N	
830.7050	UV/Visible absorption	N/A [5]	
830.7100	Viscosity	N/A [7]	
830.7200	Melting point/melting range	N/A [5]	
830.7220	Boiling point/boiling range	N/A [5]	
830.7300	Density/relative density/bulk density	N	
830.7370	Dissociation constants in water	N/A [5]	
830.7550	Partition coefficient (n-octanol/water), shake flask method	N/A [5]	
830.7840	Water solubility: column elution method; shake flask method	N/A [5]	
830.7950	Vapor pressure	N/A [5]	

[1] Y = Yes; N = No; N/A = Not Applicable. The 80% FI is manufactured from an EPA-registered product.

[2] All references were reviewed under D187966, 4/23/93, D. McNeilly, unless otherwise noted.

[3] D195328, 12/13/93, F. Toghrol.

[4] RD Memorandum D237246, 9/17/97, H. Podall.

[5] TGAI data requirements will be fulfilled by data for the technical source product.

[6] Additional validation data are required.

[7] Data are not required because the MP is a solid at room temperature.

AGENCY MEMORANDA CITED IN THIS DOCUMENT

CBRS No(s).:	3880
Subject:	Product Chemistry Data Submission on PCNB.
From:	N. Gray
To:	L. Rossi/H. Toma
Dated:	8/19/88
MRID(s):	40609601-40609603

DEB No(s).:	6290
Subject:	Product Chemistry Data Submission on PCNB for Registration Request. ID No. 5481-URT. Record No. 258324.
From:	S. Funk
To:	S. Lewis
Dated:	2/15/90
MRID(s):	41355401-41355403

DP Barcode:	RD Memorandum
Subject:	Product Chemistry Review on Technical Grade PCNB 95% EPA Reg. No. 5481-197.
From:	H. Roldan
To:	S. Lewis
Dated:	8/28/91
MRID(s):	40668602 and 41795702

DP Barcode:	RD MemorandumD178272
Subject:	Product Chemistry Review; EPA Reg. No.: 5481-UGI; Product Name: 80% PCNB Manufacturing Concentrate.
From:	A. Smith
To:	PM 25
Dated:	6/12/92
MRID(s):	42232401

CBRS No(s).:	11340
DP Barcode:	D187966
Subject:	Pentachloronitrobenzene (PCNB): Product Chemistry Data {Case 818950}.
From:	D. McNeilly
To:	S. Cerrelli
Dated:	4/23/93
MRID(s):	42624201

DP Barcode:	RD Memorandum D194583
Subject:	Product Chemistry Review of Pentachloronitrobenzene Technical (EPA Reg. No. 400-401).
From:	A. Smith
To:	E. Allen
Dated:	9/16/93
MRID(s):	42890401-42890404

CBRS No(s).:	12606
DP Barcode:	D195328
Subject:	Pentachloronitrobenzene (PCNB) Reregistration: List A Chemical No. 056502. Case No. 0128. Gustafson Response (Letter dated 9/14/93) to Product Chemistry Data Requirements (GLN 61-1, 61-2, and 62-3) for PCNB 80% FI (EPA Reg. No. 7501-45)
From:	F. Toghrol
To:	L. Rossi/L. Propst
Dated:	12/13/93
MRID(s):	None

DP Barcode:	RD Memorandum D237246
Subject:	Product Chemistry Review of MP; EPA Reg./File Symbol No.: 7501-45; Product Name: Gustafson Terraclor 80% Dust Concentrate; Company: Gustafson, Inc.
From:	H. Podall
To:	C. Welch/T. Stowe
Dated:	9/17/97
MRID(s):	None

DP Barcode:	RD Memorandum D239579
Subject:	Product Chemistry Review; EPA Reg./File Symbol No.: 400-401; Product Name: Terraclor Technical; Company: Uniroyal Chemical Co., Inc.
From:	A. Smith
To:	S. Gardner-Jenkins
Dated:	10/27/97
MRID(s):	None

DP Barcode: RD Memorandum D252703
Subject: Product Chemistry Review of TGAI; EPA Reg./File Symbol No.: 5481-197; Product Name: Technical Grade PCNB 95%; Company: Amvac Chemical Corporation
From: S. Mathur
To: M. Waller
Dated: 1/11/99
MRID(s): None

DP Barcode: RD Letter
Subject: Terraclor 90% Concentrate; EPA Reg. No. 400-414; Your Letter Dated February 24, 2000.
From: M. Waller
To: B. Katzman, Uniroyal Chemical Company
Dated: 7/27/00
MRID(s): None

PRODUCT CHEMISTRY CITATIONS

Bibliographic citations include only MRIDs containing data which fulfill data requirements.

References (cited):

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