



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 9 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Dow Chemical Company's Response to the Product Chemistry Chapter of the Telone Registration Standard (EPA Accession No. 401633-01 Dated April 4, 1987) RCB No. 2267

FROM: Gobind P. Makhijani, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

TO: Lois A. Rossi/R. Forrest, PM Team 21
Fungicide-Herbicide Branch
Registration Division (TS-767C)

and

Amy S. Rispin
Science Integration Staff
Hazard Evaluation Division (TS-769C)

THRU: William J. Boodee, Section Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769C)

In response to the 1,3-Dichloropropene (Telone) Reregistration Guidance Document published on September 18, 1986, Dow Chemical, U.S.A. has submitted partial product chemistry data, dated April 14, 1987 (EPA Accession No. 401633-01) for Telone II (EPA Registration No. 464-511). It should be noted that Telone II contains a stabilizer to ensure the integrity of the product during storage, hence this product is classified as manufacturing-use product (MP). The TGAI has not been registered by the registrant.

These data and our conclusions are discussed below. Also, revised tables A and B are provided at the end of this report.

61-2 - Description of Beginning Materials and Manufacturing Process

The registrant has submitted the manufacturing process for Telone as well as the names of suppliers of beginning materials and their specifications.

A summary of the manufacturing process is discussed in Confidential Appendix A attached to this report.

No further information is required on this topic.

61-3 - Discussion on Formation of Impurities

The registrant has provided a discussion of the formation of impurities during the production of Telone.

A summary of the predicted impurities in Telone II equal to or greater than 0.1% is discussed in Confidential Appendix B attached to this report.

No further information is required on this topic.

We defer to the Toxicology Branch regarding the toxicological significance of the presence of possible impurities formed during the manufacture of Telone.

Physical and Chemical Characteristics

The registrant has submitted the physical and chemical properties for Telone II, MP (EPA Registration No. 464-511). These are summarized below:

- 63-2 - Color - Colorless to straw-colored liquid.
- 63-3 - Physical State - Liquid.
- 63-4 - Odor - Sweet penetrating odor.
- 63-5 - Melting Point - Not applicable.
- 63-6 - Boiling Point - 104 °C (cis), 112 °C (trans),
108 °C (mixture),

- 63-7 - Specific Gravity - 1.205 to 1.219 at 20 °C
(relative to water).
1.200 to 1.214 at 25 °C
(relative to water).
- 63-8 - Solubility - 1 g/1000 g in water at 25 °C
Miscible in all proportions
with methanol, xylene range
aromatic solvents, mixed hexanes
and deodorized kerosene.

- 63-9 - Vapor Pressure - 28 mmHg at 20 °C.
63-10 - Dissociation Constant - Not applicable
(the solubility in water is insufficient to make measurements).
63-11 - Octanol/Water
Partition Coefficient - cis-1,3-dichloro-
propene = 85.
trans-1,3-dichloro-
propene = 88. The
coefficients were
measured by the shake
flask method using
14C radiolabeled
compound and chromato-
graphy.
63-12 - pH - Not applicable (due to very low solubility
in water).
63-13 - Stability - Stable under normal conditions.
Under prolonged exposure to
moisture Telone will hydrolyze
yielding hydrochloric acid.
63-14 - Oxidation and Reduction - Oxidized by
permanganate.
63-15 - Flammability - May form a flammable mixture at
4.3 to 16.6 mole percent in air.
63-16 - Explodability - Nonexplosive.
63-17 - Storage Stability - Stable up to a period of
1 year, when stored in
5- and 55-gallon drums,
at 100 °F.
63-18 - Viscosity - 0.8969 Centipoise at 20 °C.
63-19 - Miscibility - Not applicable.
63-20 - Corrosion - Noncorrosive. If sufficient
hydrolysis takes place during
prolonged exposure to water
sufficient hydrochloric acid
may be generated to attack
metals.
63-21 - Dielectric Breakdown Voltage - Not applicable.

Attachment I - Tables A and B (5 pages)

cc: Telone Registration Standard, S.F., Reviewer, RBP, PMSD/ISB
(E.Eldredge), L.Rossi (PM 21) R.F., Circu., TOX (Coberly)

Attachment II - Confidential Appendices A and B (2 pages)

Telone Registration Standard, S.F., Reviewer, RBP, PMSD/ISB
(E.Eldredge), L.Rossi (PM 21), TOX (Coberly)

cc: Telone Registration Standard, R.F., Reviewer, PMSD/ISB
(E.Eldredge), S.F., L.Rossi (PM 21), Circu., RBP, TOX
(Coberly)

TABLE A
GENERIC DATA REQUIREMENTS FOR TELONE TGAI (Unregistered Product)

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required?		Reference
			Yes	No	
<u>§158.120 Product Chemistry</u>					
<u>Product Identity</u>					
61-2 - Description of Beginning Materials and Manufacturing Process	TGAI	R	☐	☒	EPA Accession No. 401633-01
61-3 - Discussion of Formation of Impurities	TGAI	R	☐	☒	EPA Accession No. 401633-01
<u>Analysis and Certification of Product Ingredients</u>					
62-1 - Preliminary Analysis	TGAI	CR	☒	☐	Unregistered Product
62-2 - Certification of Ingredient Limits	TGAI	N/A	☐	☐	
62-3 - Analytical Methods to Verify Certified Limits	TGAI	R	☒	☐	
<u>Physical and Chemical Characteristics</u>					
63-2 - Color	TGAI	R	☐	☒	EPA Accession No. 401633-01
63-3 - Physical State	TGAI	R	☐	☒	EPA Accession No. 401633-01

TABLE A
GENERIC DATA REQUIREMENTS FOR TELONE TGAI (Unregistered Product) (cont'd)

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required?		Reference
			Yes	No	
§158.120 Product Chemistry (cont'd)					
Physical and Chemical Characteristics (cont'd)					
63-4 - Odor	TGAI	R	☐	☒	EPA Accession No. 401633-01
63-5 - Melting Point	TGAI	N/A	☐	☐	
63-6 - Boiling Point	TGAI	R	☐	☒	EPA Accession No. 401633-01
63-7 - Density, Bulk Density, or Specific Gravity	TGAI	R	☐	☒	EPA Accession No. 401633-01
63-8 - Solubility	TGAI or PAI	R	☐	☒	EPA Accession No. 401633-01
63-9 - Vapor Pressure	PAI	R	☒	☐	
63-10 - Dissociation Constant	PAI	N/A	☐	☐	
63-11 - Octanol/Water Partition Coefficient	PAI	R	☐	☒	EPA Accession No. 401633-01

6

TABLE A
GENERIC DATA REQUIREMENTS FOR TELONE TGAI (Unregistered Product) (cont'd)

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required?		Reference
			Yes	No	
<u>§158.120 Product Chemistry (cont'd)</u>					
<u>Physical and Chemical Characteristics (cont'd)</u>					
63-12 - pH	TGAI	N/A	☐	☐	EPA Accession No. 401633-01
63-13 - Stability	TGAI	R	☐	☒	
<u>Other Requirement</u>					
64-1 - Submittal of Samples	TGAI or PAI	CR	☐	☒ ^{1/}	

^{1/} If samples are needed the Agency will request them.

TABLE B
PRODUCT-SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCT TELONE II
EPA REGISTRATION NO. 464-511

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required?		Reference
			Yes	No	
§158.120 Product Chemistry					
Product Identity					
61-1 - Product Identity and Disclosure of Ingredients	MP	R	[X]	[]	
61-2 - Description of Beginning Materials and Manufacturing Process	MP	R	[]	[X]	EPA Accession No. 401633-01
61-3 - Discussion of Formation of Impurities	MP	R	[]	[X]	EPA Accession No. 401633-01
Analysis and Certification of Product Ingredients					
62-1 - Preliminary Analysis	MP	CR	[X]	[]	
62-2 - Certification of Ingredient Limits	MP	R	[X]	[]	
62-3 - Analytical Methods to Verify Certified Limits	MP	R	[X]	[]	

8

TABLE B
PRODUCT-SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCT TELONE II (cont'd)
EPA REGISTRATION NO. 464-511

Guideline Citation and Name of Test	Test Substance	Guidelines Status	Are Data Required?		Reference
			Yes	No	
<u>§158.120 Product Chemistry (cont'd)</u>					
<u>Physical and Chemical Characteristics</u>					
63-14 - Oxidizing or Reducing Action	MP	CR	☐	☒	EPA Accession No. 401633-01
63-15 - Flammability	MP	CR	☐	☒	EPA Accession No. 401633-01
63-16 - Explodability	MP	R	☐	☒	EPA Accession No. 401633-01
63-17 - Storage Stability	MP	R	☐	☒	EPA Accession NO. 401633-01
63-18 - Viscosity	MP	R	☐	☒	EPA Accession No. 401633-01
63-19 - Miscibility	MP	N/A	☐	☒	
63-20 - Corrosion Characteristics	MP	R	☐	☒	EPA Accession No. 401633-01
64-1 - Submittal of Samples ^{1/}	MP	CR			

^{1/} The Agency will request samples if needed.

9