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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
PREVENTION,
PESTICIDES
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SUBSTANCES

January 21, 2010

DP BARCODE: # 369659

MRID: # 477684-01, # 477684-02, # 477684-03

SUBJECT: Sanosil S25

REG. NO. OR FILE SYMBOL: 84526-G

DOCUMENT TYPE: Product Chemistry Review

Manufacturing-use **OR** **End-use Product**

INGREDIENTS (PC Codes) Hydrogen peroxide (000595)
Silver (072501)

CAS Number: 7722-84-1, 7440-22-4

TEST LAB: Case Consulting Laboratories, Inc.

SUBMITTER: Sanosil USA, LLC

GUIDELINE: OPPTS Test Guidelines 830 Group A and B

REVIEWER: Alex Traska

ORGANIZATION: AD

APPROVER: Karen P. Hicks

APPROVED DATE: 1/20/10

COMMENT: New Product Application



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January 21, 2010

MEMORANDUM

Subject: Review for EPA Reg. No. 84526-G

From: Alexander W. Traska, Chemist
Chemistry and Toxicology Team
Product Science Branch
Antimicrobials Division (7510P)

Act 1/21/2010

Thru: Karen P. Hicks, CT Team Leader
Chemistry and Toxicology Team
Product Science Branch
Antimicrobials Division (7510P)

To: Marshall Swindell / Martha Terry PM #33
Regulatory Management Branch
Antimicrobials Division (7510P)

Applicant: Sanosil USA, LLC
Action Code: (480) New Use, Non-Food
Due out date: 22 March 2010

Formulation from Label

<u>Active Ingredient(s)</u>	<u>% by wt.</u>
Hydrogen peroxide.....	50.00
Silver.....	0.05
Other Ingredients.....	49.95
Total	100.00

I BACKGROUND

This new product registration, covering the subject industrial end-use bactericide/fungicide/algicide product for water systems, was submitted by Lewis & Harrison on behalf of the registrant, Sanosil USA, LLC.

On behalf of Sanosil USA, LLC, Lewis & Harrison, LLC has submitted an application for registration of a new end-use product, **Sanosil S25**. This product is for use in controlling bacteria, algae, fungi, and slime in re-circulating cooling water systems and industrial process water systems. The data package included a Confidential Statement of Formula (CSF) for the basic formulation and a CSF for one alternate formulation. The product is produced by an integrated formulation system (i.e., the product contains the active ingredient, silver, whose source is not EPA-registered). [REDACTED] is the registered source of the active ingredient, hydrogen peroxide.

The following documents were submitted and examined in the chemistry review of this submission: agent's cover letter dated May 4, 2009, proposed Basic CSF and Alternate Formulation #1 both dated 5/4/09, draft product label dated 5/4/09. Also provided was product chemistry data covering OPPTS Test Guideline Series 830 Group A studies under MRID #477684-01 dated May 4, 2009 and MRID #477684-02 dated April 30, 2008 and Group B physical/chemical properties under MRID #477684-03 dated December 18, 2008.

A preliminary chemistry review of this new product registration was made by CSC Systems & Solutions LLC (CSS) and all relevant comments from the November 12, 2009 CSC review were incorporated into this Product Chemistry Review.

II FINDINGS

1. The requirements of PR Notice 91-2 were not satisfied. The nominal concentration of the active ingredients, shown in the proposed Basic CSF and Alternate Formulation #1, both dated 5/4/09, did not agree with the percentages declared on the product label. More specifically, the hydrogen peroxide was declared as 50.0% (3 significant figure declaration) in both CSFs while the label declared hydrogen peroxide as 50.00% (4 significant figure declaration). The nominal concentration for hydrogen peroxide must be identical between the product label and the proposed formulations (CFSS).

2. Standard certified limits were proposed for the active ingredients, hydrogen peroxide and silver.

3. The active and inert ingredients utilized in the proposed Basic CSF and alternate Formulation #1 are cleared for use in this and other pesticide formulations. The active

ingredient hydrogen peroxide is from an EPA registered source [REDACTED] while the silver is from non-registered sources. The silver in the Basic CSF is from a colloidal silver source while Alternate Formulation #1 utilizes silver from silver nitrate source.

4. The study reports under MRID # 477684-01 and #477684-02 contained data responding to the requirements of OPPTS Test Guidelines 830 Group A. The data provided are acceptable with the exception of OPPTS 830.1750 (Certified Limits).

To satisfy OPPTS 830.1750 (Certified Limits) requirements, a signed certification statement must be provided, as requested under OPPTS 830.1750(g).

A statement of Good Laboratory Practice (GLP) compliance was provided for the study assigned MRID 477684-02. The study was conducted in compliance with the GLP standards as set forth in 40 CFR Part 160.

5. The study report under MRID # 477684-03 contained data responding to the requirements of OPPTS Test Guidelines 830 Group B. The data provided are acceptable with the exception of OPPTS 830.6315 (Flammability/ Flame Extension), OPPTS 830.6316 (Explosibility), OPPTS 830.6317 (Storage Stability), OPPTS 830.6320 (Corrosion Characteristics), and OPPTS 830.6321 (Dielectric Breakdown Voltage). To satisfy these requirements, the following recommendations are offered:

To satisfy OPPTS 830.6315 (Flammability/ Flame Extension) requirements, the following should be provided: a discussion regarding the potential flammability of the product or a flash point determination from a GLP compliant study.

To satisfy OPPTS 830.6316 (Explosibility) requirements, a discussion regarding the potential explosibility of the product must be provided. If the product is potentially explosive, then impact and/or thermal explosibility GLP compliant testing must be conducted and the results must be provided.

To satisfy OPPTS 830.6317 (Storage Stability) and OPPTS 830.6320 (Corrosion Characteristics) requirements, results for a minimum of 1 year from a GLP-compliant storage stability and corrosion characteristics study must be provided. The concentrations of the active ingredients in the product must be determined at the beginning of the test period and every 3 months thereafter for a period of 1 year. Storage and disposal information on the product label must be revised if product composition (or packaging) deteriorates over time.

To satisfy OPPTS 830.6319 (Miscibility) requirements, a statement identifying whether the product is to be diluted with oil or other non-polar solvents must be provided.

To satisfy OPPTS 830.6321 (Dielectric Breakdown Voltage) requirements, a statement identifying whether the product is to be used on or in the vicinity of electrical

equipment must be provided. If the product is a non-conductant liquid and is to be used around electrical equipment, then the dielectric breakdown voltage must be determined and provided.

A statement of Good Laboratory Practice (GLP) compliance was provided for the study assigned MRID 477684-03. The studies were conducted in compliance with the GLP standards as set forth in 40 CFR Part 160.

6. The following revisions to both CSFs should be made:

- Under Item #7, identify the units for the reported density as “g/mL.”
- Under Item #8, change the pH to read “4.15.”
- Under Item #10 for the active ingredient source, identify [REDACTED] as the trade name.

7. The following revision to the product label is recommended:

- Under the “Precautionary Statements” section of the product label, change “before eating, drinking or using tobacco” to read “before eating, drinking, chewing gum, using tobacco, or using the toilet.”

III CONCLUSIONS

This new product application, which requested the approval to register a new hydrogen peroxide and silver based end-use product under the **Sanosil S25** registration, has partially met guideline requirements.

Registrant is requested to address all data gaps, comments and recommendations noted above in the Findings.

PRODUCT CHEMISTRY REVIEW

I. **CONFIDENTIAL STATEMENT OF FORMULA**

a. Type of formulation and source registration:

- Non-integrated formulation system []
- Are all TGAs used registered? Yes [] No []
- Integrated formulation system [X]
- If "ME-TOO," specify EPA Reg. No. of existing product: _____

b. Clearance of inerts for non-food or food use:

The product is cleared for food use under 40 CFR §§180.940 and 180.950.
Yes [] No []

Note: All inert ingredients are listed on the EPA document "Inert Ingredients Permitted for Use in Nonfood Use Pesticide Products," last updated on January 27, 2009 and available at http://www.epa.gov/opprd001/inerts/inert_nonfooduse.pdf.

c. Physical state of product: *Liquid*

d. The chemical IDs and analytical information (including that for the TGAs), density, pH, and flammability are consistent with that given in 830 Series, Group B.
Yes [] No [X]

Note: The pH reported on the CSF must be corrected to read "4.15."

Note: A discussion regarding the potential flammability of the product must be provided, or the results from a flash point determination from a GLP-compliant study must be provided.

e. The NCs and CLs are acceptable. Yes [X] No []

f. Active ingredient(s)	<u>NC</u> (%)	<u>LCL</u> (%)	<u>UCL</u> (%)
Hydrogen peroxide	50.0	48.5	51.5
Silver	0.05	0.045	0.055

g. For products produced by an integrated formulation system:

- Do all impurities of toxicological significance have a UCL?
Yes [] No [] Not applicable [X]
- Have all impurities of $\geq 0.1\%$ in the product been identified?
Yes [] No [] Not applicable [X]

II PRODUCT LABEL

a. The active ingredient(s) statement (chemical IDs and NC) is consistent with the CONFIDENTIAL STATEMENT OF FORMULA. Yes [X] No []

b. The formula contains one of the following:

- 10% or more of a petroleum distillate: Yes [] No [X]
- 1.0% or more of methyl alcohol: Yes [] No [X]
- sodium nitrite at any level: Yes [] No [X]
- a toxic List I inert at any level: Yes [] No [X]
- arsenic in any form: Yes [] No [X]

c. If “yes” to any of the above, does the inert ingredients statement contain a footnote indicating this? Yes [] No [] Not applicable [X]

d. Appropriate warning statement(s) regarding flammability or explosive characteristics of the product are listed on the label.
Yes [] No [] Not applicable []

Note: A discussion regarding the potential flammability of the product must be provided, or the results from a flash point determination from a GLP-compliant study must be provided.

Note: A discussion regarding the potential explodability of the product must be provided.

e. The storage and disposal instructions for the pesticide container are in compliance with PR Notice 84-1 for household use products or PR Notice 83-3 for all other uses.
Yes [X] No []

f. The product requires an expiration date at which time the NC falls below the LCL (based on the 1-year storage stability data or other information).
Yes [] No []

Note: Results for a minimum of 1 year from a GLP-compliant storage

stability study must be provided.

**Table A:
Product Chemistry (Series 830, Group A)**

Data Requirements	Acceptance of Information	MRID No.
830.1550 Product Identity ¹	A	477684-01
830.1600 Description of Materials	A Note: Information on the starting materials used to produce silver was not provided, as requested under OPPTS 830.1600(b)(2). Certificates of Analysis for silver and silver nitrate were provided, however.	477684-01
830.1620 Production Process ²	A Note: The product is formulated.	477684-01
830.1650 Formulation Process ³	A Note: The study assigned MRID 477684-01 incorrectly identifies the silver content as 0.1%. The CSF correctly identifies the silver content as 0.05%.	477684-01
830.1670 Formation of Impurities ⁴	A	477684-01
830.1700 Preliminary Analysis ⁵	A – Results from the analysis of five batches of the product were provided. Testing was conducted in compliance with GLP.	477684-02
830.1750 Certified Limits ⁶	A – Standard certified limits were proposed. G – A signed certification statement must be provided, as requested under OPPTS 830.1750(g).	477684-01
830.1800 Analytical Method ⁷	A – A copy of a titration method was provided for determining hydrogen peroxide content. A copy of a photometric method was provided for determining silver content.	477684-01
830.1900 Submittal of Samples	<i>[Samples are to be provided on a case-by-case basis for end-use products.]</i>	

Explanation: A=acceptable; N=not acceptable (i.e., item was submitted but is not acceptable); NA=technically not applicable (i.e., not required); G=data gap (i.e., item was not submitted but is required); U=requires upgrading (i.e., item is unacceptable but upgradeable); W=waived; E=EPA estimate.

¹See Confidential Appendix A for additional information.

²For MP/EP products produced by an integrated formulation system.

³For products from a TGAI or MP.

⁴May be waived unless actual/possible impurities are of toxicological concern.

⁵Five batch analysis required for products produced by an integrated formulation system.

⁶If different from standard CLs recommended in 40 CFR 158.175, this should be discussed in Confidential Appendix A.

⁷Abbreviate method used as follows: gas chromatography (GC), infrared (IR), ultraviolet absorption (UV), nuclear magnetic resonance (NMR), etc.

**Table B:
Physical and Chemical Characteristics (Series 830, Group B)**

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
830.6302 Color	A	The product is colorless at 23°C, based on visual inspection. CCL SOP 10.11 was referenced. Testing was conducted in compliance with GLP.	477684-03
830.6303 Physical State	A	The product is a liquid at 23°C, based on visual inspection. CCL SOP 10.12 was referenced. Testing was conducted in compliance with GLP.	477684-03
830.6304 Odor	A	The product has no detectable odor at 23°C. CCL SOP 10.13 was referenced. Testing was conducted in compliance with GLP.	477684-03
830.6313 Stability to Normal and Elevated Temperatures, Metals, and Metal Ions	NA	<i>[Not required for end-use products.]</i>	
830.6314 Oxidation/Reduction; Chemical Incompatibility	A	The product was placed in contact with water. No signs of reaction were observed upon initial contact or after 24 hours	477684-03

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
		<p>of exposure. The product was placed in contact with monoammonium phosphate. No signs of reaction were observed upon initial contact. Slow bubbling was seen after ~30 minutes. After 24 hours of exposure, the added solid was fully dissolved and the system did not show any reaction. The product was placed in contact with powdered iron. Upon initial contact, some evolution of gas was observed. After 24 hours of exposure, a slow continued evolution of gas was observed. The product was placed in contact with potassium permanganate. Upon initial contact, a violent reaction was observed (i.e., much evolution of gas, a 51°C temperature rise). After 24 hours of exposure, no signs of reaction were observed. Testing was conducted in compliance with GLP.</p> <p>Note: The product label includes a "Physical and Chemical Hazards" section. The product label states that the product is incompatible with oxidizing and reducing agents.</p>	
830.6315 Flammability/ Flame Extension	G		
830.6316 Explodability	G		
830.6317 Storage Stability	G		
830.6319 Miscibility ¹	G		
830.6320 Corrosion Characteristics	G		

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
830.6321 Dielectric Breakdown Voltage	G		
830.7000 pH ²	A	The pH of the product was reported to be 4.15 at 25°C. A 1% (v/v) mixture of the product in deionized water was tested. CCL SOP 10.17, which is based on ASTM E 70, was referenced. Testing was conducted in compliance with GLP.	477684-03
830.7050 UV/Visible Absorption	NA	<i>[Not required for end-use products.]</i>	
830.7100 Viscosity	A	The mean kinematic viscosity of the product was reported to be 0.9208 mm ² /s at 23°C (as determined using an Ubbelohde viscometer). Two determinations were made. Testing was not conducted at another temperature (e.g., 20°C higher), although OPPTS 830.7100(d) notes that this is preferable. ASTM D 445 and D 446 were referenced. Testing was conducted in compliance with GLP.	477684-03
830.7200 Melting Point/Melting Range	NA	<i>[Not required for end-use products.]</i>	
830.7220 Boiling Point/Boiling Range	NA	<i>[Not required for end-use products.]</i>	
830.7300 Density/Relative Density/Bulk Density	A	The density of the product was reported to be 1.1958 g/mL at 23°C. CCL SOP 10.16, which is based on ASTM D 891, Method B, was referenced. Testing was conducted in compliance with GLP.	477684-03
830.7370 Dissociation Constants in Water	NA	<i>[Not required for end-use products.]</i>	
830.7550/830.7560/830.7570 Partition Coefficient	NA	<i>[Not required for end-use products.]</i>	
830.7840/830.7860 Water Solubility	NA	<i>[Not required for end-use products.]</i>	

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
830.7950 Vapor Pressure	NA	[Not required for end-use products.]	

Explanation: A=acceptable; N=not acceptable (i.e., item was submitted but is not acceptable); NA=technically not applicable (i.e., not required); G=data gap (i.e., item was not submitted but is required); U=requires upgrading (i.e., item is unacceptable but upgradeable); W=waived; E=EPA estimate.

* Provide brief description, e.g., color – yellow or property value, e.g., density 1.25 g/cc. Unless otherwise indicated, the property should be at 25°C.

¹If product is an emulsifiable liquid

²If product is dispersible with water

OLD SANOSIL HWP---- PCR

PRODUCT CHEMISTRY REVIEW

I. CONFIDENTIAL STATEMENT OF FORMULA

a. Type of formulation and source registration:

- Non-integrated formulation system
- Are all TGAs used registered? Yes No
- Integrated formulation system
- If "ME-TOO," specify EPA Reg. No. of existing product: _____

b. Clearance of inerts for non-food or food use:

The product is cleared for food use under 40 CFR §§180.940 and 180.950.
Yes No

Note: All inert ingredients are listed on the EPA document "Inert Ingredients Permitted for Use in Nonfood Use Pesticide Products," last

updated on January 27, 2009 and available at
http://www.epa.gov/opprd001/inerts/inert_nonfooduse.pdf.

c. Physical state of product: *Liquid*

d. The chemical IDs and analytical information (including that for the TGAIs), density, pH, and flammability are consistent with that given in 830 Series, Group B.
Yes [] No []

Note: The pH reported on the CSFs must be corrected to read "4.0."

Note: A discussion regarding the potential flammability of the product or a flash point determination from a GLP-compliant study must be provided.

e. The NCs and CLs are acceptable. Yes [X] No []

f. Active ingredient(s)	<u>NC</u> (%)	<u>LCL</u> (%)	<u>UCL</u> (%)
Hydrogen peroxide	50.0	48.5	51.5
Silver	0.1	0.09	0.11

g. For products produced by an integrated formulation system:

- Do all impurities of toxicological significance have a UCL?
Yes [] No [] Not applicable [X]
- Have all impurities of $\geq 0.1\%$ in the product been identified?
Yes [] No [] Not applicable [X]

II PRODUCT LABEL

a. The active ingredient(s) statement (chemical IDs and NC) is consistent with the CONFIDENTIAL STATEMENT OF FORMULA. Yes [X] No []

b. The formula contains one of the following:

- 10% or more of a petroleum distillate: Yes [] No [X]
- 1.0% or more of methyl alcohol: Yes [] No [X]
- sodium nitrite at any level: Yes [] No [X]
- a toxic List 1 inert at any level: Yes [] No [X]
- arsenic in any form: Yes [] No [X]

c. If "yes" to any of the above, does the inert ingredients statement contain a footnote indicating this? Yes [] No [] Not applicable [X]

d. Appropriate warning statement(s) regarding flammability or explosive characteristics of the product are listed on the label.

Yes [] No [] Not applicable []

Note: A discussion regarding the potential flammability and explosability of the product must be provided.

e. The storage and disposal instructions for the pesticide container are in compliance with PR Notice 84-1 for household use products or PR Notice 83-3 for all other uses.

Yes [X] No []

f. The product requires an expiration date at which time the NC falls below the LCL (based on the 1-year storage stability data or other information).

Yes [] No []

Note: Results for a minimum of 1 year from a GLP-compliant storage stability study must be provided.

**Table A:
Product Chemistry (830 Series, Group A)**

Data Requirements	Acceptance of Information	MRID No.
830.1550 Product Identity ¹	A	477585-01
830.1600 Description of Materials	A	477585-01
830.1620 Production Process ²	A	
830.1650 Formulation Process ³	A	477585-01
830.1670 Formation of Impurities ⁴	A	477585-01
830.1700 Preliminary Analysis ⁵	A – Results from the analysis of five batches of the product were provided. Testing was conducted in compliance with GLP.	477585-02
830.1750 Certified Limits ⁶	A – Standard certified limits were proposed. G – A signed certification statement must be provided, as requested under OPPTS	477585-01

Data Requirements	Acceptance of Information	MRID No.
	830.1750(g).	
830.1800 Analytical Method ⁷	A – A copy of a titration method was provided for determining hydrogen peroxide content. A- copy of a photometric procedure for determining silver content was provided in the study assigned MRID 477585-01. Flame atomic absorption spectroscopy was utilized for determining silver content in the study assigned MRID 477585-02.	477585-01 and 477585-02
830.1900 Submittal of Samples	<i>[Samples are to be provided on a case-by-case basis for end-use products.]</i>	

Explanation: A=acceptable; N=not acceptable (i.e., item was submitted but is not acceptable); NA=technically not applicable (i.e., not required); G=data gap (i.e., item was not submitted but is required); U=requires upgrading (i.e., item is unacceptable but upgradeable); W=waived; E=EPA estimate.

¹See Confidential Appendix A for additional information.

²For MP/EP products produced by an integrated formulation system.

³For products from a TGAI or MP.

⁴May be waived unless actual/possible impurities are of toxicological concern.

⁵Five batch analysis required for products produced by an integrated formulation system.

⁶If different from standard CLs recommended in 40 CFR 158.175, this should be discussed in Confidential Appendix A.

⁷Abbreviate method used as follows: gas chromatography (GC), infrared (IR), ultraviolet absorption (UV), nuclear magnetic resonance (NMR), etc.

**Table B:
Physical and Chemical Characteristics (Series 830, Group B)**

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
830.6302 Color	A	The product is colorless at 23°C, based on visual inspection. CCL SOP 10.11 was referenced. Testing was conducted in compliance with GLP.	477585-03
830.6303 Physical State	A	The product is a liquid at 23°C, based on visual inspection. CCL SOP 10.12 was referenced. Testing was	477585-03

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
		conducted in compliance with GLP.	
830.6304 Odor	A	The product is odorless at 23°C. CCL SOP 10.13 was referenced. Testing was conducted in compliance with GLP.	477585-03
830.6313 Stability to Normal and Elevated Temperatures, Metals, and Metal Ions	NA	<i>[Not required for end-use products.]</i>	
830.6314 Oxidation/Reduction; Chemical Incompatibility	A	<p>The product was placed in contact with water. No visible reaction was observed upon initial contact or after 24 hours of contact. The product was placed in contact with monoammonium phosphate. No visible reaction was observed upon initial contact. Slow bubbling was observed after ~30 minutes. No visible reaction was observed after 24 hours of contact. The product was placed in contact with powdered iron. Moderate evolution of gas was observed upon initial contact. Slow evolution of gas was observed after 24 hours of contact. The product was placed in contact with potassium permanganate. A violent reaction was observed upon initial contact (i.e., much evolution of gas, 54°C temperature rise). No visible reaction was observed after 24 hours of contact. Testing was conducted in compliance with GLP.</p> <p>Note: The product label states that the product is incompatible with oxidizing and reducing agents.</p>	477585-03

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
		<p>Note: The product was not placed in contact with a household organic solvent (e.g., kerosene, turpentine, gasoline), as requested under OPPTS 830.6314(b) for products intended for use in household environments. However, the product label for the hydrogen peroxide source [REDACTED] does not indicate that the product is incompatible with household organic solvents.</p>	
830.6315 Flammability/ Flame Extension	G		
830.6316 Explodability	G		
830.6317 Storage Stability	G	A storage stability study is currently underway.	EPA Form 8570-36
830.6319 Miscibility ¹	A	The product is not intended to be diluted with oil or other non-polar solvents.	Product Label
830.6320 Corrosion Characteristics	G	A corrosion characteristics study is currently underway.	EPA Form 8570-36
830.6321 Dielectric Breakdown Voltage	G		
830.7000 pH ²	A	The pH of the product was reported to be 4.07 at 25°C. A 1% mixture (v/v) of the product in deionized water was tested. CCL SOP 10.17, which is based on ASTM E 70, was referenced. Testing was conducted in compliance with GLP.	477585-03
830.7050 UV/Visible Absorption	NA	<i>[Not required for end-use products.]</i>	
830.7100 Viscosity	A	The mean viscosity of the product was reported to be 0.9219 mm ² /s (cSt) at 23°C (using an Ubbelohde viscometer). Two	477585-03

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
		determinations were made. Testing was not conducted at another temperature (e.g., 20°C higher), although OPPTS 830.7100(d) notes that this is preferable. ASTM D 445 and D 446 were referenced. Testing was conducted in compliance with GLP.	
830.7200 Melting Point/Melting Range	NA	<i>[Not required for end-use products.]</i>	
830.7220 Boiling Point/Boiling Range	NA	<i>[Not required for end-use products.]</i>	
830.7300 Density/Relative Density/Bulk Density	A	The relative density of the product was reported to be 1.1935 at 23°C. CCL SOP 10.16, which is based on ASTM D 891, Method B, was referenced. Testing was conducted in compliance with GLP. Note: Relative density is a dimensionless value. It has no units. Units were reported for the relative density value provided in the study assigned MRID 477585-03 and on EPA Form 8570-36.	477585-03
830.7370 Dissociation Constants in Water	NA	<i>[Not required for end-use products.]</i>	
830.7550/830.7560/830.7570 Partition Coefficient	NA	<i>[Not required for end-use products.]</i>	
830.7840/830.7860 Water Solubility	NA	<i>[Not required for end-use products.]</i>	
830.7950 Vapor Pressure	NA	<i>[Not required for end-use products.]</i>	

Explanation: A=acceptable; N=not acceptable (i.e., item was submitted but is not acceptable); NA=technically not applicable (i.e., not required); G=data gap (i.e., item was not submitted but is required); U=requires upgrading (i.e., item is unacceptable but upgradeable); W=waived; E=EPA estimate.

* Provide brief description, e.g., color – yellow or property value, e.g., density 1.25 g/cc. Unless otherwise indicated, the property should be at 25°C.

¹If product is an emulsifiable liquid
²If product is dispersible with water